

FEBRUARY



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WORLDS OF SCIENCE FICTION

IN THIS ISSUE

Feeling of Power

ISAAC ASIMOV

Out from the Sun

ARTHUR C. CLARKE

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ASSASSIN

A tense novelette about a
strange invasion, by
J. F. Bone



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WORLDS OF SCIENCE FICTION

FEBRUARY 1958

All Stories New and Complete

Editor: JAMES L. QUINN

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NOVELETTES

ASSASSIN by J. F. Bone	12
THE BARBARIANS by John Sentry	58

SHORT STORIES

THE FEELING OF POWER by Isaac Asimov	4
THE HERO by Eloine Wilber	33
CONTAMINATION CREW by Alon E. Nourse	44
OUT FROM THE SUN by Arthur C. Clarke	77
SECURITY RISK by Ed M. Clinton, Jr.	82
THE STANDARDIZED MAN by Stephen Bartholomew	92
FEET OF CLAY by Phillip Hoskins	100

FEATURES

EDITOR'S REPORT	2
WHAT'S YOUR SCIENCE I.Q.?	43
SCIENCE BRIEFS	116
HUE AND CRY	118

COVER

A Scene from "Assassin" by Mel Hunter

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Next (April) issue on sale February 12th

Editor's REPORT

Mail has been piling up nicely on the editorial desk in response to our request for information about the readers. Judging by a cross section, (this means picking letters out of the heap at random) we've got readers from 12 to 74—all with stars in their eyes. Fields of endeavor now include musicians, salesmen, lab technicians, pharmacists, test pilots, actors and one prisoner, who writes that he "likes to escape" with science fiction! To find out why people read science fiction read some of their letters in *Hue and Cry* . . . and if you haven't already done it, why not drop us a vital statistic or two to help swell the mail?

Following through on our practice of letting readers in on just what authors do, we corralled the "master" who's the lead-off man in this issue. Seems as though all people ("without exception", he claims) who meet Isaac Asimov for the first time are startled to find him clean shaven (except, of course for five

o'clock shadow). For some reason an immediate picture of a patriarchal type with a long white beard (or at any rate a dignified Van Dyke) rises unbidden when his name is mentioned. Isaac has been writing science fiction for 20 years; but insists he started as a teen-ager—he's still not *that* old. The whole thing is even more demoralizing when some great muscular hunk of humanity boasts that he was born in the same year that Asimov's first story appeared! Of course, the resounding title of Associate Professor of Biochemistry at Boston University, plus the fact that the man has several learned textbooks to his credit, may have a great deal to do with this modern fable of "old man Asimov".

A recent study concerning the aggressive tendencies of authors held at U.C.L.A., showed that there was a definite correlation between personal aggressiveness and the intensity of violence in the fiction these men wrote. The least aggressive people wrote the most consistently violent tales, while those with aggressive natures were much more variable. Interesting sidelight on the study was the fact that authors tended to write of more intense violence under stress from financial problems!

Hydroponic tanks for feeding the crew of a spaceship may be outmoded before the first one is ever installed! Scientists have discovered that green plants secrete a deadly carbon monoxide gas when injured. And since no one knows just

what in space could or would cause such "injury", researchers feel that plants used as a source of food and oxygen during space flight might poison the spaceship's entire air supply.

By this time the world is aware that the Russians rushed their satellite into space not so much for benefit of the IGY as for propaganda. Now the second "sputnik" is about due, and the Soviets promise it will carry much more instrumentation than "sputnik the first". The second moon will rise to 560 miles and speed at 18,000 miles per hour, same as the first, but will weigh 400 or 500 pounds, according to Dr. Blagonravov, who helped develop the Russian satellite program. It will broadcast intensity of cosmic rays, temperature and air density, whereas the first "moon" broadcast only temperature. Whether "sputnik the second" gets up there before the first American satellite does or not, we'll hold that Vanguard sends up a better "mouse trap", and if you are looking for real estate on the moon, don't get it from the Ruskies.

The first motion picture visualization of Project Vanguard, the launching and tracking of the first American satellite, is being distributed. The four minute animated film is titled *A Moon is Born* and is shown in color and black and white. It includes the depiction of the Minitrack and Moonwatch phases of the project as well as the use of an IBM computer for the prediction of the moon's future po-

sitions. If your club, civic group or school is interested in showing this film, drop us a line and we'll send you the name and address of the distributor.

We've had so many blasts, both pro and con, about our quiz, that we decided to explain our stand. Biggest noise against it comes from those who feel that the page could be used for more stories. Those in favor, feel they're learning something—and to a man they're pretty proud when they come up with a good score. Now, a good *one page* story is as rare as the Penny Black of stamp collecting; and padding a story so it will run over for an extra page is against all our editorial instincts. So why not give people a chance to test themselves on what they know about the world around them?

Last minute notes. . . . The by-line John Sentry on this issue's *The Barbarians* is a pen name for what well known science-fiction writer? . . . Don't forget THE SECOND WORLD OF IF! If you haven't ordered one already, hang around your newsstand and grab it the minute it arrives. One hundred and sixty pages of solid entertainment without a single "wasted" page . . . Look for an exciting new yarn by Frank Riley called *A Question of Identity* in our April issue—an entirely new theme in science fiction and *definitely* one to which we can look forward. . . . And while we're looking ahead, by all means look for Arthur C. Clarke's newest, *The Songs of Distant Earth*, in the June issue. —ekw



Illustrated by Virgil Finlay

THE FEELING

Graphitics was a startlingly new idea!

So revolutionary, in fact, it rocked the top army brass.

Imagine computing—without a computer!

JEHAN SHUMAN WAS used to dealing with the men in authority on long-embattled Earth. He was only a civilian but he originated programming patterns that resulted in self-directing war computers of the highest sort. Generals consequently listened to him. Heads of congressional committees, too.

There was one of each in the special lounge of New Pentagon. General Weider was space-burnt and had a small mouth puckered almost into a cypher. Congressman Brant was smooth-checked and clear-eyed. He smoked Denebian tobacco with the air of one whose patriotism was so notorious, he could be allowed such liberties.

Shuman, tall, distinguished and

programmer-first-class, faced them fearlessly.

He said, "This, gentlemen, is Ladislas Aub."

"The one with the unusual gift that you discovered quite by accident," said Congressman Brant, placidly. "Ah." He inspected the little man with the egg-bald head with amiable curiosity.

The little man, in return, twisted the fingers of his hands anxiously. He had never been near such great men before. He was only an aging low-grade Technician who had long ago failed all tests designed to smoke out the gifted ones among mankind and had settled into the rut of unskilled labor. There was just this hobby of his that the great

OF POWER

BY ISAAC ASIMOV

programmer had found out about and was now making such a frightening fuss over.

General Weider said, "I find this atmosphere of mystery childish."

"You won't in a moment," said Shuman. "This is not something we can leak to the first-comer. —Aub!" There was something imperative about his manner of biting off that one-syllable name, but then he was a great Programmer speaking to a mere Technician. "Aub! How much is nine times seven?"

Aub hesitated a moment, his pale eyes glimmered with a feeble anxiety. "Sixty-three," he said.

Congressman Brant lifted his eyebrows. "Is that right?"

"Check it for yourself, congressman."

The congressman took out his pocket computer, nudged the milled edges twice, looked at its face as it lay there in the palm of his hand and put it back. He said, "Is this the gift you brought us here to demonstrate. An illusionist?"

"More than that, sir. Aub has memorized a few operations and with them he computes on paper."

"A paper computer?" said the general. He looked pained.

"No, sir," said Shuman, patiently. "Not a paper computer. Simply a sheet of paper. General, would you be so kind as to suggest a number?"

"Seventeen," said the general.

"And you, congressman?"

"Twenty-three."

"Good! Aub, multiply those numbers and please show the gentlemen your manner of doing it."

"Yes, programmer," said Aub,

ducking his head. He fished a small pad out of one shirt pocket and an artist's hairline stylus out the other." His forehead corrugated as he made painstaking marks on the paper.

General Weider interrupted him sharply. "Let's see that."

Aub passed him the paper, and Weider said, "Well, it *looks* like the figure seventeen."

Congressman Brant nodded and said, "So it does, but I suppose anyone can copy figures off a computer. I think I could make a passable seventeen myself, even without practice."

"If you will let Aub continue, gentlemen," said Shuman without heat.

Aub continued, his hand trembling a little. Finally, he said in a low voice, "The answer is three hundred and ninety-one."

Congressman Brant took out his computer a second time and flicked it, "By Godfrey, so it is. How did he guess?"

"No guess, congressman," said Shuman. "He computed that result. He did it on this sheet of paper."

"Humbug," said the general, impatiently. "A computer is one thing and marks on paper are another."

"Explain, Aub," said Shuman.

"Yes, programmer. —Well, gentlemen, I write down seventeen and just underneath it, I write twenty-three. Next, I say to myself: seven times three—"

The congressman interrupted smoothly, "Now, Aub, the problem is seventeen times twenty-three."

"Yes, I know," said the little technician earnestly, "but I *start* by

saying seven times three because that's the way it works. Now seven times three is twenty-one."

"And how do you know that?" asked the congressman.

"I just remember it. It's always twenty-one on the computer. I've checked it any number of times."

"That doesn't mean it always will be, though, does it?" said the congressman.

"Maybe not," stammered Aub. "I'm not a mathematician. But I always get the right answers, you see."

"Go on."

"Seven times three is twenty-one, so I write down twenty-one. Then one times three is three, so I write down a three under the two of twenty-one."

"Why under the two?" asked Congressman Brant at once.

"Because—" Aub looked helplessly at his superior for support. "It's difficult to explain."

Shuman said, "If you will accept his work for the moment, we can leave the details for the mathematicians."

Brant subsided.

Aub said, "Three plus two makes five, you see, so the twenty-one becomes a fifty-one. Now you let that go for a while and start fresh. You multiply seven and two, that's fourteen, and one and two, that's two. Put them down like this and it adds up to thirty-four. Now if you put the thirty-four under the fifty-one this way and add them, you get three hundred and ninety-one and that's the answer."

There was an instant's silence and then General Weider said, "I

don't believe it. He goes through this rigmarole and makes up numbers and multiplies and adds them this way and that, but I don't believe it. It's too complicated to be anything but hornswoggling."

"Oh, no, sir," said Aub in a sweat. "It only *seems* complicated because you're not used to it. Actually, the rules are quite simple and will work for any numbers."

"Any numbers, eh?" said the general. "Come then." He took out his own computer (a severely-styled GI model) and struck it at random. Make a five, seven, three, eight on the paper. That's five thousand seven hundred and thirty-eight."

"Yes, sir," said Aub, taking a new sheet of paper.

"Now," (more punching of his computer), "seven two three nine. Seven thousand two hundred and thirty-nine."

"Yes, sir."

"And now multiply those two."

"It will take some time," quavered Aub.

"Take the time," said the general.

"Go ahead, Aub," said Shuman, crisply.

Aub set to work, bending low. He took another sheet of paper and another. The general took out his watch finally and stared at it. "Are you through with your magic-making, technician?"

"I'm almost done, sir. Here it is, sir. Forty-one million, five hundred and thirty-seven thousand, three hundred and eight-two." He showed the scrawled figures of the result.

General Weider smiled bitterly.

He pushed the multiplication contact on his computer and let the numbers whirl to a halt. And then he stared and said in a surprised squeak. "Great Galaxy, the fella's right."

The President of the Terrestrial Federation had grown haggard in office and, in private, he allowed a look of settled melancholy to appear on his sensitive features. The Denebian war, after its early start of vast movement and great popularity, had trickled down into a sordid matter of maneuver and counter-maneuver, with discontent rising steadily on Earth. Possibly, it was rising on Deneb, too.

And now Congressman Brant, head of the important Committee on Military Appropriations was cheerfully and smoothly spending his half-hour appointment spouting nonsense.

"Computing without a computer," said the president, impatiently, "is a contradiction in terms."

"Computing," said the congressman, "is only a system for handling data. A machine might do it, or the human brain might. Let me give you an example." And, using the new skills he had learned, he worked out sums and products until the president, despite himself, grew interested.

"Does this always work?"

"Every time, Mr. President. It is foolproof."

"Is it hard to learn?"

"It took me a week to get the real hang of it. I think you could do better."

"Well," said the president, considering, "it's an interesting parlor game, but what is the use of it?"

"What is the use of a new-born baby, Mr. President? At the moment, there is no use, but don't you see that this points the way toward liberation from the machine. Consider, Mr. President," the congressman rose and his deep voice automatically took on some of the cadences he used in public debate, "that the Denebian war is a war of computer against computer. Their computers forge an impenetrable shield of counter-missiles against our missiles, and ours forge one against theirs. If we advance the efficiency of our computers, so do they theirs, and for five years a precarious and profitless balance has existed.

"Now we have in our hands a method for going beyond the computer, leap-frogging it, passing through it. We will combine the mechanics of computation with human thought; we will have the equivalent of intelligent computers; billions of them. I can't predict what the consequences will be in detail but they will be incalculable. And if Deneb beats us to the punch, they may be catastrophic."

The president said, troubled, "What would you have me do?"

"Put the power of the administration behind the establishment of a secret project on human computation. Call it Project Number, if you like. I can vouch for my committee, but I will need the administration behind me."

"But how far can human computation go?"

"There is no limit. According to Programmer Shuman, who first introduced me to this discovery—"

"I've heard of Shuman, of course."

"Yes. Well, Dr. Shuman tells me that in theory there is nothing the computer can do that the human mind can not do. The computer merely takes a finite amount of data and performs a finite number of operations upon them. The human mind can duplicate the process."

The president considered that. He said, "If Shuman says this, I am inclined to believe him,—in theory. But, in practice, how can anyone know how a computer works?"

Brant laughed genially. "Well, Mr. President, I asked the same question. It seems that at one time, computers were designed directly by human beings. Those were simple computers of course; this being before the time of the rational use of computers to design more advanced computers had been established."

"Yes, yes. Go on."

"Technician Aub apparently had, as his hobby, the reconstruction of some of these ancient devices and in so doing he studied the details of their workings and found he could imitate them. The multiplication I just performed for you is an imitation of the workings of a computer."

"Amazing!"

The congressman coughed gently, "If I may make another point, Mr. President— The further we can develop this thing, the more we can divert our Federal effort from

computer production and computer maintenance. As the human brain takes over, more of our energy can be directed into peace-time pursuits and the impingement of war on the ordinary man will be less. This will be most advantageous for the party in power, of course."

"Ah," said the president, "I see your point. Well, sit down, congressman, sit down. I want some time to think about this. —But meanwhile, show me that multiplication trick again. Let's see if I can't catch the point of it."

PROGRAMMER SHUMAN

He did not try to hurry matters. Loesser was conservative, very conservative, and liked to deal with computers as his father and grandfather had. Still, he controlled the West European computer combine and if he could be persuaded to join Project Number in full enthusiasm, a great deal would have been accomplished.

But Loesser was holding back. He said, "I'm not sure I like the idea of relaxing our hold on computers. The human mind is a capricious thing. The computer will give the same answer to the same problem each time. What guarantee have we that the human mind will do the same?"

"The human mind, Computer Loesser, only manipulates facts. It doesn't matter whether the human mind or a machine does it. They are just tools."

"Yes, yes. I've gone over your ingenious demonstration that the mind can duplicate the computer

but it seems to me a little in the air. I'll grant the theory but what reason have we for thinking that theory can be converted to practice?"

"I think we have reason, sir. After all, computers have not always existed. The cavemen with their triremes, stone axes and railroads had no computers."

"And possibly they did not compute."

"You know better than that. Even the building of a railroad or a ziggurat called for some computing, and that must have been without computers as we know them."

"Do you suggest they computed in the fashion you demonstrate?"

"Probably not. After all, this method—we call it 'graphitics', by the way, from the old European word 'grapho' meaning 'to write'—is developed from the computers themselves so it cannot have antedated them. Still, the cavemen must have had *some* method, eh?"

"Lost arts! If you're going to talk about lost arts—"

"No, no. I'm not a lost art enthusiast, though I don't say there may not be some. After all, man was eating grain before hydroponics and if the primitives ate grain, they must have grown them in soil. What else could they have done?"

"I don't know, but I'll believe in soil-growing when I see someone grow grain in soil. And I'll believe in making fire by rubbing two pieces of flint together when I see that, too."

Shuman grew placating. "Well, let's stick to graphitics. It's just part of the process of etherealiza-

tion. Transportation by means of bulky contrivances is giving way to direct mass-transference. Communications devices become less massive and more efficient constantly. For that matter, compare your pocket computer with the massive jobs of a thousand years ago. Why not, then, the last step of doing away with computers altogether? Come, sir, Project Number is a going concern; progress is already headlong. But we want your help. If patriotism doesn't move you, consider the intellectual adventure involved."

Loesser said, skeptically, "What progress? What can you do beyond multiplication? Can you integrate a transcendental function?"

"In time, sir. In time. In the last month I have learned to handle division. I can determine, and correctly, integral quotients and decimal quotients."

"Decimal quotients? To how many places?"

Programmer Shuman tried to keep his tone casual. "Any number!"

Loesser's lower jaw dropped. "Without a computer?"

"Set me a problem?"

"Divide twenty-seven by thirteen? Take it to six places."

Five minutes later, Shuman said, "Two point oh seven six nine two three."

Loesser checked it. "Well, now, that's amazing. Multiplication didn't impress me too much because it involved integers after all, and I thought trick manipulation might do it. But decimals—"

"And that is not all. There is a

new development that is, so far, top secret and which, strictly speaking, I ought not to mention. Still—We may have made a breakthrough on the square root front.”

“Square roots?”

“It involves some tricky points and we haven’t licked the bugs yet, but Technician Aub, the man who invented the science and who has an amazing intuition in connection with it, maintains he has the problem almost solved. And he is only a technician. A man like yourself, a trained and talented mathematician ought to have no difficulty.”

“Square roots,” muttered Loesser, attracted.

“Cube roots, too. Are you with us?”

Loesser’s hand thrust out suddenly, “Count me in.”

General Weider stumped his way back and forth at the head of the room and addressed his listeners after the fashion of a savage teacher facing a group of recalcitrant students. It made no difference to the general that they were the civilian scientists heading Project Number. The general was the over-all head, and he so considered himself at every waking moment.

He said, “Now square roots are all fine. I can’t do them myself and I don’t understand the methods, but they’re fine. Still, the project will not be side-tracked into what some of you call the fundamentals. You can play with graphitics any way you want to after the war is over, but right now we have specific and very practical problems to solve.”

In a far corner, Technician Aub listened with painful attention. He was no longer a technician, of course, having been relieved of his duties and assigned to the project, with a fine-sounding title and good pay. But, of course, the social distinction remained and the highly-placed scientific leaders could never bring themselves to admit him to their ranks on a footing of equality. Nor did he, himself, wish it. He was as uncomfortable with them as they with him.

The general was saying, “Our goal is a simple one, gentlemen; the replacement of the computer. A ship that can navigate space without a computer on board can be constructed in one-fifth the time and at one-tenth the expense of a computer-laden ship. We could build fleets five times, ten times as great as Dench could if we could but eliminate the computer.

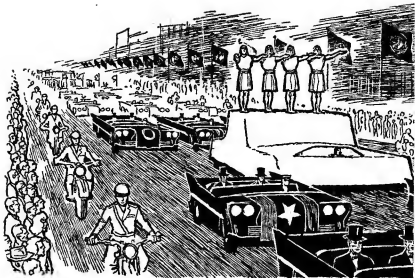
“And I see something even beyond this. It may be fantastic now; a mere dream; but in the future I see the manned missile!”

There was an instant murmur from the audience.

The general drove on. “At the present time, our chief bottleneck is the fact that missiles are limited in intelligence. The computer controlling them can only be so large so they can meet the changing nature of anti-missile defenses in an unsatisfactory way. Few missiles, if any, accomplish their goal and missile warfare is coming to a dead end; for the enemy, fortunately, as well as for ourselves.

“On the other hand, a missile

(Continued on page 115)

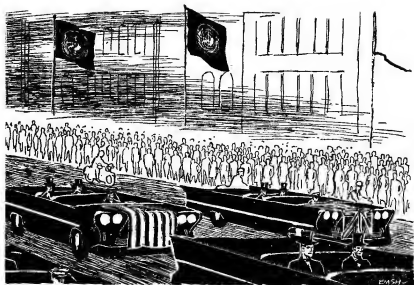


The aliens wooed Earth with gifts, love, patience and peace.

Who could resist them? After all, no one shoots Santa Claus!

ASSASSIN

BY J. F. BONE



Illustrated by Ed Emsh

THE RIFLE LAY comfortably in his hands, a gleaming precision instrument that exuded a faint odor of gun oil and powder solvent. It was a perfect specimen of the gunsmith's art, a semi-automatic rifle with a telescopic sight—a precisely engineered tool that could hurl death with pinpoint accuracy for better than half a mile.

Daniel Matson eyed the weapon with bleak gray eyes, the eyes of a hunter framed in the passionless face of an executioner. His blunt hands were steady as they lifted the gun and tried a dry shot at an imaginary target. He nodded to himself. He was ready. Carefully he laid the rifle down on the mattress which covered the floor of his firing point, and looked out through the hole in the brickwork

to the narrow canyon of the street below.

The crowd had thickened. It had been gathering since early morning, and the growing press of spectators had now become solid walls of people lining the street, packed tightly together on the sidewalks. Yet despite the fact that there were virtually no police, the crowd did not overflow into the street, nor was there any of the pushing

crowding impatience that once attended an assemblage of this sort. Instead there was a placid tolerance, a spirit of friendly good will, an ingenuous complaisance that grated on Matson's nerves like the screeching rasp of a file drawn across the edge of thin metal. He shivered uncontrollably. It was hard to be a free man in a world of slaves.

It was a measure of the Aztlan's triumph that only a bare half-dozen police 'copters patrolled the empty skies above the parade route. The aliens had done this—had conquered the world without firing a shot or speaking a word in anger. They had wooed Earth with understanding patience and superlative guile—and Earth had fallen into their hands like a lovesick virgin! There never had been any real opposition, and what there was had been completely ineffective. Most of those who had opposed the aliens were out of circulation, imprisoned in correctional institutions, undergoing rehabilitation. Rehabilitation! a six bit word for dehumanizing. When those poor devils finished their treatment with Aztlan brain-washing techniques, they would be just like these sheep below, with the difference that they would never be able to be anything else. But these other stupid fools crowding the sidewalks, waiting to hail their destruction—these were the ones who must be saved. They—not the martyrs of the underground, were the important part of humanity.

A police 'copter windmilled slowly down the avenue toward

his hiding place, the rotating vanes and insect body of the craft starkly outlined against the jagged backdrop of the city's skyline. He laughed soundlessly as the susurating flutter of the rotor blades beat overhead and died whispering in the distance down the long canyon of the street. His position had been chosen with care, and was invisible from air and ground alike. He had selected it months ago, and had taken considerable pains to conceal its true purpose. But after today concealment wouldn't matter. If things went as he hoped, the place might someday become a shrine. The idea amused him.

Strange, he mused, how events conspire to change a man's career. Seven years ago he had been a respected and important member of that far different sort of crowd which had welcomed the visitors from space. That was a human crowd—half afraid, wholly curious, jostling, noisy, pushing—a teeming swarm that clustered in a thick disorderly ring around the silver disc that lay in the center of the International Airport overlooking Puget Sound. Then—he could have predicted his career. And none of the predictions would have been true—for none included a man with a rifle waiting in a blind for the game to approach within range . . .

The Aztlan ship had landed early that July morning, dropping silently through the overcast covering International Airport. It settled gently to rest precisely in the

center of the junction of the three main runways of the field, effectively tying up the transcontinental and transoceanic traffic. Fully five hundred feet in diameter, the giant ship squatted massively on the runway junction, cracking and buckling the thick concrete runways under its enormous weight.

By noon, after the first skepticism had died, and the unbelievable TV pictures had been flashed to their waiting audience, the crowd began to gather. All through that hot July morning they came, increasing by the minute as farther outlying districts poured their curious into the Airport. By early afternoon, literally hundreds of millions of eyes were watching the great ship over a world-wide network of television stations which cancelled their regular programs to give their viewers an uninterrupted view of the enigmatic craft.

By mid-morning the sun had burned off the overcast and was shining with brassy brilliance upon the squads of sweating soldiers from Fort Lewis, and more sweating squads of blue-clad police from the metropolitan area of Seattle-Tacoma. The police and soldiery quickly formed a ring around the ship and cleared a narrow lane around the periphery, and this they maintained despite the increasing pressure of the crowd.

The hours passed and nothing happened. The faint creaking and snapping sounds as the seamless hull of the vessel warmed its space-chilled metal in the warmth of the summer sun were lost in the growing impatience of the crowd. They

wanted something to happen. Shouts and catcalls filled the air as more nervous individuals clamored to relieve the tension. Off to one side a small group began to clap their hands rhythmically. The little clique gained recruits, and within moments the air was riven by the thunder of thousands of palms meeting in unison. Frightened the crowd might be, but greater than fear was the desire to see what sort of creatures were inside.

Matson stood in the cleared area surrounding the ship, a position of privilege he shared with a few city and state officials and the high brass from McChord Field, Fort Lewis, and Bremerton Navy Yard. He was one of the bright young men who had chosen Government Service as a career, and who, in these days of science-consciousness had risen rapidly through ability and merit promotions to become the Director of the Office of Scientific Research while still in his early thirties. A dedicated man, trained in the bitter school of ideological survival, he understood what the alien science could mean to this world. Their knowledge would secure peace in whatever terms the possessors cared to name, and Matson intended to make sure that his nation was the one which possessed that knowledge.

He stood beside a tall scholarly looking man named Roger Thornton, who was his friend and incidentally the Commissioner of Police for the Twin City metropolitan area. To a casual eye, their positions should be reversed, for the lean ascetic Thornton looked far

more like the accepted idea of a scientist than burly, thick shouldered, square faced Matson, whose every movement shouted Cop.

Matson glanced quizzically at the taller man. "Well, Roger, I wonder how long those birds inside are going to keep us waiting before we get a look at them?"

"You'd be surprised if they really were birds, wouldn't you?" Thornton asked with a faint smile. "But seriously, I hope it isn't too much longer. This mob is giving the boys a bad time." He looked anxiously at the strained line of police and soldiery. "I guess I should have ordered out the night shift and reserves instead of just the riot squad. From the looks of things they'll be needed if this crowd gets any more unruly."

Matson chuckled. "You're an alarmist," he said mildly. "As far as I can see they're doing all right. I'm not worried about them—or the crowd, for that matter. The thing that's bothering me is my feet. I've been standing on 'em for six hours and they're killing me!"

"Mine too," Thornton sighed. "Tell you what I'll do. When this is all over I'll split a bucket of hot water and a pint of arnica with you."

"It's a deal," Matson said.

As he spoke a deep musical hum came from inside the ship, and a section of the rim beside him separated along invisible lines of juncture, swinging downward to form a broad ramp leading upward to a square orifice in the rim of the ship. A bright shadowless light that seemed to come from the metal

walls of the opening framed the shape of the star traveller who stood there, rigidly erect, looking over the heads of the section of the crowd before him.

A concerted gasp of awe and admiration rose from the crowd—a gasp that was echoed throughout the entire ring that surrounded the ship. There must be other openings like this one, Matson thought dully as he stared at the being from space. Behind him an Army tank rumbled noisily on its treads as it drove through the crowd toward the ship, the long gun in its turret lifting like an alert finger to point at the figure of the alien.

The stranger didn't move from his unnaturally stiff position. His oddly luminous eyes never wavered from their fixed stare at a point far beyond the outermost fringes of the crowd. Seven feet tall, obviously masculine, he differed from mankind only in minor details. His long slender hands lacked the little finger, and his waist was abnormally small. Other than that, he was human in external appearance. A wide sleeved tunic of metallic fabric covered his upper body, gathered in at his narrow waist by a broad metal belt studded with tiny bosses. The tunic ended halfway between hip and knee, revealing powerfully muscled legs encased in silvery hose. Bright yellow hair hung to his shoulders, clipped short in a square bang across his forehead. His face was long, clean featured and extraordinarily calm—almost godlike in its repose. Matson stared, fascinated. He had the curious impression that the visitor had stepped

bodily out of the Middle Ages. His dress and haircut were almost identical with that of a medieval courtier.

The starman raised his hand—his strangely luminous steel gray eyes scanned the crowd—and into Matson's mind came a wave of peaceful calm, a warm feeling of goodwill and brotherhood, an indescribable feeling of soothing relaxation. With an odd sense of shock Matson realized that he was not the only one to experience this. As far back as the farthest hangers-on near the airport gates the tenseness of the waiting crowd relaxed. The effect was amazing! Troops lowered their weapons with shamefaced smiles on their faces. Police relaxed their sweating vigilance. The crowd stirred, moving backward to give its members room. The emotion-charged atmosphere vanished as though it had never been. And a cold chill played icy fingers up the spine of Daniel Matson. He had felt the full impact of the alien's projection, and he was more frightened than he had ever been in his life!

THEY HAD BEEN clever—damnably clever! That initial greeting with its disarming undertones of empathy and innocence had accomplished its purpose. It had emasculated Mankind's natural suspicion of strangers. And their subsequent actions—so beautifully timed—so careful to avoid the slightest hint of evil, had completed what their magnificently staged appearance had begun.

The feeling of trust had persisted. It lasted through quarantine, clearance, the public receptions, and the private meetings with scientists and the heads of government. It had persisted unabated through the entire two months they remained in the Twin City area. The aliens remained as they had been in the beginning—completely unspoiled by the interest shown in them. They remained simple, unaffected, and friendly, displaying an ingenuous innocence that demanded a corresponding faith in return.

Most of their time was spent at the University of Washington, where at their own request they were studied by curious scholars, and in return were given courses in human history and behavior. They were quite frank about their reasons for following such a course of action—according to their spokesman Ixtl they wanted to learn human ways in order to make a better impression when they visited the rest of Mankind. Matson read that blurb in an official press release and laughed cynically. Better impression, hah! They couldn't have done any better if they had an entire corps of public relations specialists assisting them! They struck exactly the right note—and how could they improve on perfection?

From the beginning they left their great ship open and unguarded while they commuted back and forth from the airport to the campus. And naturally the government quickly rectified the second error and took instant advantage of the first. A guard was posted

around the ship to keep it clear of the unofficially curious, while the officially curious combed the vessel's interior with a fine tooth comb. Teams of scientists and technicians under Matson's direction swarmed through the ship, searching with the most advanced methods of human science for the secrets of the aliens.

They quickly discovered that while the star travellers might be trusting, they were not exactly fools. There was nothing about the impenetrably shielded mechanisms that gave the slightest clue as to their purpose or to the principles upon which they operated—nor were there any visible controls. The ship was as blankly uncommunicative as a brick wall.

Matson was annoyed. He had expected more than this, and his frustration drove him to watch the aliens closely. He followed them, sat in on their sessions with the scholars at the University, watched them at their frequent public appearances, and came to know them well enough to recognize the microscopic differences that made them individuals. To the casual eye they were as alike as peas in a pod, but Matson could separate Farn from Quicha, and Laz from Acana—and Ixtl—well he would have stood out from the others in any circumstances. But Matson never intruded. He was content to sit in the background and observe.

And what he saw bothered him. They gave him no reason for their appearance on Earth, and whenever the question came up Ixtl parried it adroitly. They were obviously not explorers for they displayed a

startling familiarity with Earth's geography and ecology. They were possibly ambassadors, although they behaved like no ambassadors he had ever seen. They might be traders, although what they would trade only God and the aliens knew—and neither party was in a talking mood. Mysteries bothered Matson. He didn't like them. But they could keep their mystery if he could only have the technical knowledge that was concealed beneath their beautifully shaped skulls.

At that, he had to admit that their appearance had come at precisely the right time. No one better than he knew how close Mankind had been to the final war, when the last two major antagonists on Earth were girding their human and industrial power for a final showdown. But the aliens had become a diversion. The impending war was forgotten while men waited to see what was coming next. It was obvious that the starmen had a reason for being here, and until they chose to reveal it, humanity would forget its deadly problems in anticipation of the answer to this delightful puzzle that had come to them from outer space. Matson was thankful for the breathing space, all too well aware that it might be the last that Mankind might have, but the enigma of the aliens still bothered him.

He was walking down the main corridor of the Physics Building on the University campus, wondering as he constantly did about how he could extract some useful knowledge from the aliens when a quiet

voice speaking accentless English sounded behind him.

"What precisely do you wish to know, Dr. Matson?" the voice said.

Matson whirled to face the questioner, and looked into the face of Ixtl. The alien was smiling, apparently pleased at having startled him. "What gave you the idea that I wanted to know anything?" he asked.

"You did," Ixtl said. "We all have been conscious of your thoughts for many days. Forgive me for intruding, but I must. Your speculations radiate on such a broad band that we cannot help being aware of them. It has been quite difficult for us to study your customs and history with this high level background noise. We are aware of your interest, but your thoughts are so confused that we have never found questions we could answer. If you would be more specific we would be happy to give you the information which you seek."

"Oh yeah!" Matson thought.

"Of course. It would be to our advantage to have your disturbing speculations satisfied and your fears set at rest. We could accomplish more in a calmer environment. It is too bad that you do not receive as strongly as you transmit. If you did, direct mental contact would convince you that our reasons for satisfying you are good. But you need not fear us, Earthman. We intend you no harm. Indeed, we plan to help you once we learn enough to formulate a proper program."

"I do not fear you," Matson said—knowing that he lied.

"Perhaps not consciously," Ixtl said graciously, "but nevertheless fear is in you. It is too bad—and besides," he continued with a faint smile "it is very uncomfortable. Your glandular emotions are quite primitive, and very disturbing."

"I'll try to keep them under control," Matson said dryly.

"Physical control is not enough. With you there would have to be mental control as well. Unfortunately you radiate much more strongly than your fellow men, and we are unable to shut you out without exerting considerable effort that could better be employed elsewhere." The alien eyed Matson speculatively. "There you go again," he said. "Now you're angry."

Matson tried to force his mind to utter blankness, and the alien smiled at him. "It does some good—but not much," he said. "Conscious control is never perfect."

"Well then, what can I do?"

"Go away. Your range fortunately is short."

Matson looked at the alien. "Not yet," he said coldly. "I'm still looking for something."

"Our technology," Ixtl nodded. "I know. However I can assure you it will be of no help to you. You simply do not have the necessary background. Our science is based upon a completely different philosophy from yours."

To Matson the terms were contradictory.

"Not as much as you think," Ixtl continued imperturbably. "As you will find out, I was speaking quite precisely." He paused and eyed

Matson thoughtfully. "It seems as though the only way to remove your disturbing presence is to show you that our technology is of no help to you. I will make a bargain with you. We shall show you our machines, and in return you will stop harassing us. We will do all in our power to make you understand; but whether you do or do not, you will promise to leave and allow us to continue our studies in peace. Is that agreeable?"

Matson swallowed the lump in his throat. Here it was—handed to him on a silver platter—and suddenly he wasn't sure that he wanted it!

"It is," he said. After all, it was all he could expect.

They met that night at the spaceship. The aliens, tall, calm and cool; Matson stocky, heavy-set and sweating. The contrast was infernally sharp, Matson thought. It was as if a primitive savage were meeting a group of nuclear physicists at Los Alamos. For some unknown reason he felt ashamed that he had forced these people to his wishes. But the aliens were pleasant about it. They took the imposition in their usual friendly way.

"Now," Ixtl said. "Exactly what do you want to see—to know?"

"First of all, what is the principle of your space drive?"

"There are two," the alien said. "The drive that moves this ship in normal space time is derived from Lurgil's Fourth Order equations concerning the release of subatomic energy in a restricted space time continuum. Now don't protest! I know you know nothing of Lurgil,

nor of Fourth Order equations. And while I can show you the mathematics, I'm afraid they will be of little help. You see, our Fourth Order is based upon a process which you would call Psychomathematics and that is something I am sure you have not yet achieved."

Matson shook his head. "I never heard of it," he admitted.

"The second drive operates in warped space time," Ixtl continued, "hyperspace in your language, and its theory is much more difficult than that of our normal drive, although its application is quite simple, merely involving apposition of congruent surfaces of hyper and normal space at stress points in the ether where high gravitational fields balance. Navigation in hyperspace is done by electronic computer—somewhat more advanced models than yours. However, I can't give you the basis behind the hyperspace drive." Ixtl smiled depreciatingly. "You see, I don't know them myself. Only a few of the most advanced minds of Aztlan can understand. We merely operate the machines."

Matson shrugged. He had expected something like this. Now they would stall him off about the machines after handing him a fast line of double-talk.

"As I said," Ixtl went on, "there is no basis for understanding. Still, if it will satisfy you, we will show you our machines—and the mathematics that created them although I doubt that you will learn anything more from them than you have from our explanation."

"I could try," Matson said grimly.

"Very well," Ixtl replied.

He led the way into the center of the ship where the seamless housings stood, the housings that had baffled some of the better minds of Earth. Matson watched while the star men proceeded to be helpful. The housings fell apart at invisible lines of juncture, revealing mechanisms of baffling simplicity, and some things that didn't look like machines at all. The aliens stripped the strange devices and Ixtl attempted to explain. They had anti-gravity, forcefields, faster than light drive, and advanced design computers that could be packed in a suitcase. There were weird devices whose components seemed to run out of sight at crazily impossible angles, other things that rotated frictionlessly, suspended in fields of pure force, and still others which his mind could not envisage even after his eyes had seen them. All about him lay the evidence of a science so advanced and alien that his brain shrank from the sight, refusing to believe such things existed. And their math was worse! It began where Einstein left off and went off at an incomprehensible tangent that involved psychology and ESP. Matson was lost after the first five seconds!

Stunned, uncomprehending and deflated, he left the ship. An impression that he was standing with his toe barely inside the door of knowledge became a conscious certainty as he walked slowly to his car. The wry thought crossed his mind that if the aliens were trying

to convince him of his abysmal ignorance, they had succeeded far beyond their fondest dreams!

They certainly had! Matson thought grimly as he selected five cartridges from the box lying beside him. In fact they had succeeded too well. They had turned his deflation into antagonism, his ignorance into distrust. Like a savage, he suspected what he could not understand. But unlike the true primitive, the emotional distrust didn't interfere with his ability to reason or to draw logical inferences from the data which he accumulated. In attempting to convince, Ixtl had oversold his case.

IT WAS SHORTLY after he had returned to Washington, that the aliens gave the waiting world the reasons for their appearance on Earth. They were, they said, members of a very ancient highly evolved culture called Aztlán. And the Aztláns, long past the need for conquest and expansion, had turned their mighty science to the help of other, less fortunate, races in the galaxy. The aliens were, in a sense, missionaries—one of hundreds of teams travelling the star lanes to bring the benefits of Aztlán culture to less favored worlds. They were, they unblushingly admitted, altruists—interested only in helping others.

It was pure corn, Matson reflected cynically, but the world lapped it up and howled for more. After decades of cold war, lukewarm war, and sporadic outbreaks

of violence, that were inevitably building to atomic destruction, men were willing to try anything that would ease the continual burden of strain and worry. To Mankind, the Aztlans' words were as refreshing as a cool breeze of hope in a desert of despair.

And the world got what it wanted.

Quite suddenly the aliens left the Northwest, and accompanied by protective squads of FBI and Secret Service began to cross the nation. Taking widely separated paths they visited cities, towns, and farms, exhibiting the greatest curiosity about the workings of human civilization. And, in turn, they were examined by hordes of hopeful humans. Everywhere they went, they spread their message of good will and hope backed by the incredibly convincing power of their telepathic minds. Behind them, they left peace and hopeful calm; before them, anticipation mounted. It rose to a crescendo in New York where the paths of the star men met.

The Aztlans invaded the United Nations. They spoke to the General Assembly and the Security Council, were interviewed by the secretariat and reporters from a hundred foreign lands. They told their story with such conviction that even the Communist bloc failed to raise an objection, which was as amazing to the majority of the delegates as the fact of the star men themselves. Altruism, it seemed, had no conflict with dialectic materialism. The aliens offered a watered-down variety of their technology to the

peoples of Earth with no strings attached, and the governments of Earth accepted with open hands, much as a small boy accepts a cookie from his mother. It was impossible for men to resist the lure of something for nothing, particularly when it was offered by such people as the Aztlans. After all, Matson reflected bitterly, nobody shoots Santa Claus!

From every nation in the world came invitations to the aliens to visit their lands. The star men cheerfully accepted. They moved across Europe, Asia, and Africa—visited South America, Central America, the Middle East and Oceania. No country escaped them. They absorbed languages, learned customs, and spread good will. Everywhere they went relaxation followed in their footsteps, and throughout the world arose a realization of the essential brotherhood of man.

It took nearly three years of continual travelling before the aliens again assembled at UN headquarters to begin the second part of their promised plan—to give their science to Earth. And men waited with calm expectation for the dawn of Golden Age.

Matson's lips twisted. Fools! Blind, stupid fools! Selling their birthright for a mess of pottage! He shifted the rifle across his knees and began filling the magazine with cartridges. He felt an empty loneliness as he closed the action over the filled magazine and turned the safety to "on". There was no comforting knowledge of support and

sympathy to sustain him in what he was about to do. There was no real hope that there ever would be. His was a voice crying in the wilderness, a voice that was ignored—as it had been when he visited the President of the United States . . .

MATSON entered the White House, presented his appointment card, and was ushered past ice-eyed Secret Service men into the presidential office. It was as close as he had ever been to the Chief Executive, and he stared with polite curiosity across the width of desk which separated them.

"I wanted to see you about the Aztlan business," the President began without preamble. "You were there when their ship landed, and you are also one of the few men in the country who has seen them alone. In addition, your office will probably be handling the bulk of our requests in regard to the offer they made yesterday in the UN. You're in a favorable spot." The President smiled and shrugged. "I wanted to talk with you sooner, but business and routine play the devil with one's desires in this office.

"Now tell me," he continued, "your impression of these people."

"They're an enigma," Matson said flatly. "To tell the truth, I can't figure them out." He ran his fingers through his hair with a worried gesture. "I'm supposed to be a pretty fair physicist, and I've had quite a bit of training in the social sciences, but both the mechanisms and the psychology of these Aztlanes are beyond my comprehension. All

I can say for sure is that they're as far beyond us as we are beyond the cavemen. In fact, we have so little in common that I can't think of a single reason why they would want to stay here, and the fact that they do only adds to my confusion."

"But you must have learned something," the President said.

"Oh we've managed to collect data," Matson replied. "But there's a lot of difference between data and knowledge."

"I can appreciate that, but I'd still like to know what you think. Your opinion could have some weight."

Matson doubted it. His opinions were contrary to those of the majority. Still, the Chief asked for it—and he might possibly have an open mind. It was a chance worth taking.

"Well, Sir, I suppose you've heard of the so-called "wild talents" some of our own people occasionally possess?"

The President nodded.

"It is my belief," Matson continued, "that the Aztlanes possess these to a far greater degree than we do, and that their science is based upon them. They have something which they call psychomathematics, which by definition is the mathematics of the mind, and this seems to be the basis of their physical science. I saw their machines, and I must confess that their purpose baffled me until I realized that they must be mechanisms for amplifying their own natural equipment. We know little or nothing about psi phenomena, so it is no wonder I couldn't figure them out. As a

matter of fact we've always treated psi as something that shouldn't be mentioned in polite scientific conversation."

The President grinned. "I always thought you boys had your blind spots."

"We do—but when we're confronted with a fact, we try to find out something about it—that is if the fact hits us hard enough, often enough."

"Well, you've been hit hard and often," the President chuckled, "What did you find out?"

"Facts," Matson said grimly, "just facts. Things that could be determined by observation and measurement. We know that the aliens are telepathic. We also know that they have a form of ESP—or perhaps a recognition of danger would be a better term—and we know its range is somewhat over a third of a mile. We know that they're telekinetic. The lack of visible controls in their ship would tell us that, even if we hadn't seen them move small objects at a distance. We know that they have eidetic memories, and that they can reason on an extremely high level. Other than that we know nothing. We don't even know their physical structure. We've tried X-ray but they're radio-opaque. We've tried using some human sensitives from the Rhine Institute, but they're unable to get anywhere. They just turn empathic in the aliens' presence, and when we get them back, they do nothing but babble about the beauty of the Aztlan soul."

"Considering the difficulties, you haven't done too badly," the Presi-

dent said. "I take it then, that you're convinced that they are an advanced life form. But do you think they're sincere in their attitude toward us?"

"Oh, they're sincere enough," Matson said. "The only trouble is that we don't know just what they're sincere about. You see, sir, we are in the position of a savage to whom a trader brings the luxuries of civilization. To the savage, the trader may represent purest altruism, giving away such valuable things as glass beads and machine made cloth for useless pieces of yellow rock and the skins of some native pest. The savage hasn't the slightest inkling that he's being exploited. By the time he realizes he's been had, and the yellow rock is gold and the skins are mink, he has become so dependent upon the goods for which the trader has whetted his appetite that he inevitably becomes an economic slave."

"Of course you can argue that the cloth and beads are far more valuable to the savage than the gold or mink. But in the last analysis, value is determined by the higher culture, and by that standard, the savage gets taken. And ultimately civilization moves in and the superior culture of the trader's race determines how the savage will act."

"Still, the savage has a basis for his acts. He is giving something for something—making a trade. But we're not even in that position. The aliens apparently want nothing from us. They have asked for nothing except our good will, and that isn't a tradable item."

"But they're altruists!" the Presi-

dent protested.

"Sir, do you think that they're insane?" Matson asked curiously. "Do they appear like fanatics to you?"

"But we can't apply our standards to them. You yourself have said that their civilization is more advanced than ours."

"Whose standards can we apply?" Matson asked. "If not ours, then whose? The only standards that we can possibly apply are our own, and in the entire history of human experience there has never been a single culture that has had a basis of pure altruism. Such a culture could not possibly exist. It would be overrun and gobbled up by its practical neighbors before it drew its first breath."

"We must assume that the culture from which these aliens come has had a practical basis in its evolutionary history. It could not have risen full blown and altruistic like Minerva from the brain of Jove. And if the culture had a practical basis in the past, it logically follows that it has a practical basis in the present. Such a survival trait as practicality would probably never be lost no matter how far the Aztlan race has evolved. Therefore, we must concede that they are practical people—people who do not give away something for nothing. But the question still remains—what do they want?"

"Whatever it is, I don't think it is anything from which we will profit. No matter how good it looks, I am convinced that cooperation with these aliens will not ultimately be to our advantage. Despite the

reports of every investigative agency in this government, I cannot believe that any such thing as pure altruism exists in a sane mind. And whatever I may believe about the Aztlans, I do not think they're insane."

The President sighed. "You are a suspicious man, Matson, and perhaps you are right; but it doesn't matter what you believe—or what I believe for that matter. This government has decided to accept the help the Aztlans are so graciously offering. And until the reverse is proven, we must accept the fact that the star men *are* altruists, and work with them on that basis. You will organize your office along those lines, and extract every gram of information that you can. Even you must admit that they have knowledge that will improve our American way of life."

Matson shook his head doggedly. "I'm afraid, Sir, if you expect Aztlan science to improve the American way of life, you are going to be disappointed. It might promote an Aztlan way of life, but the reverse is hardly possible."

"It's not my decision," the President said. "My hands are tied. Congress voted for the deal by acclamation early this morning. I couldn't veto it even if I wanted to."

"I cannot cooperate in what I believe is our destruction," Matson said in a flat voice.

"Then you have only one course," the President said. "I will be forced to accept your resignation." He sighed wearily.

"Personally, I think you're mak-

ing a mistake. Think it over before you decide. You're a good man, and Lord knows the government can use good men. There are far too many fools in politics." He shrugged and stood up. The interview was over.

Matson returned to his offices, filled with cold frustration. Even the President believed he could do nothing, and these shortsighted politicians who could see nothing more than the immediate gains—there was a special hell reserved for them. There were too many fools in politics. However, he would do what he could. His sense of duty was stronger than his resentment. He would stay on and try to cushion some of the damage which the Aztlan would inevitably cause, no matter how innocent their motives. And perhaps the President was right—perhaps the alien science would bring more good than harm.

FOR THE NEXT two years Matson watched the spread of Aztlan ideas throughout the world. He saw Aztlan devices bring health, food and shelter to millions in underprivileged countries, and improve the lot of those in more favored nations. He watched tyrannies and authoritarian governments fall under the passive resistance of their peoples. He saw militarism crumble to impotence as the Aztlan influence spread through every facet of society, first as a trickle, then as a steady stream, and finally as a rushing torrent. He saw Mankind on the brink of a Golden Age—and he was unsatisfied.

Reason said that the star men were exactly what they claimed to be. Their every action proved it. Their consistency was perfect, their motives unimpeachable, and the results of their efforts were astounding. Life on Earth was becoming pleasant for millions who never knew the meaning of the word. Living standards improved, and everywhere men were conscious of a feeling of warmth and brotherhood. There was no question that the aliens were doing exactly what they promised.

But reason also told him that the aliens were subtly and methodically destroying everything that man had created, turning him from an individual into a satisfied puppet operated by Aztlan strings. For man is essentially lazy—always searching for the easier way. Why should he struggle to find an answer when the Aztlan had discovered it millennia ago and were perfectly willing to share their knowledge? Why should he use inept human devices when those of the aliens performed similar operations with infinitely more ease and efficiency? Why should he work when all he had to do was ask? There was plan behind their acts.

But at that point reason dissolved into pure speculation. Why were they doing this? Was it merely mistaken kindness or was there a deeper more subtle motive? Matson didn't know, and in that lack of knowledge lay the hell in which he struggled.

For two years he stayed on with the OSR, watching humanity rush

down an unmarked road to an uncertain future. Then he ran away. He could take no more of this blind dependence upon alien wisdom. And with the change in administration that had occurred in the fall elections he no longer had the sense of personal loyalty to the President which had kept him working at a job he despised. He wanted no part of this brave new world the aliens were creating. He wanted to be alone. Like a hermit of ancient times who abandoned society to seek his soul, Matson fled to the desert country of the Southwest—as far as possible from the Aztlans and their works.

The grimly beautiful land toughened his muscles, blackened his skin, and brought him a measure of peace. Humanity retreated to remoteness except for Seth Winters, a leathery old-timer he had met on his first trip into the desert. The acquaintance had ripened to friendship. Seth furnished a knowledge of the desert country which Matson lacked, and Matson's money provided the occasional grubstake they needed. For weeks at a time they never saw another human—and Matson was satisfied. The world could go its own way. He would go his.

Running away was the smartest thing he could have done. Others more brave perhaps, or perhaps less rational—had tried to fight, to form an underground movement to oppose these altruists from space; but they were a tiny minority so divided in motives and purpose that they could not act as a unit. They were never more than a nuisance, and

without popular support they never had a chance. After the failure of a complicated plot to assassinate the aliens, they were quickly rounded up and confined. And the aliens continued their work.

Matson shrugged. It was funny how little things could mark mileposts in a man's life. If he had known of the underground he probably would have joined it and suffered the same penalty for failure. If he hadn't fled, if he hadn't met Seth Winters, if he hadn't taken that last trip into the desert, if any one of a hundred little things had happened differently he would not be here. That last trip into the desert—he remembered it as though it were yesterday . . .

The yellow flare of a greasewood fire cast flickering spears of light into the encircling darkness. Above, in the purplish black vault of the moonless sky the stars shone down with icy splendor. The air was quiet, the evening breeze had died, and the stillness of the desert night pressed softly upon the earth. Far away, muted by distance, came the ululating wail of a coyote.

Seth Winters laid another stick of quick-burning greasewood on the fire and squinted across the smoke at Matson who was lying on his back, arms crossed behind his head, eyeing the night sky with the fascination of a dreamer.

"It's certainly peaceful out here," Matson murmured as he rose to his feet, stretched, and sat down again looking into the tiny fire.

"'Tain't nothin' unusual, Dan'l.

Not out here it ain't. It's been plumb peaceful on this here desert nigh onto a million years. An' why's it peaceful? Mainly 'cuz there ain't too many humans messin' around in it."

"Possibly you're right, Seth."

"Shore I'm right. It jest ain't nacheral fer a bunch of Homo saps to get together without an argyment startin' somewhere. 'Tain't the nature of the critter to be peaceable. An' y'know, that's the part of this here sweetness an' light between nations that bothers me. Last time I was in Prescott, I set down an' read six months of newspapers—an' everything's jest too damn good to be true. Seems like everybody's gettin' to love everybody else." He shook his head. "The hull world's as sticky-sweet as molasses candy. It jest ain't nacheral!"

"The star men are keeping their word. They said that they would bring us peace. Isn't that what they're doing?"

"Shucks Dan'l—that don't give 'em no call to make the world a blasted honey-pot with everybody bubblin' over with brotherly love. There ain't no real excitement left. Even the Commies ain't raisin' hell like they useta. People are gettin' more like a bunch of damn woolies every day."

"I'll admit that Mankind had herd instincts," Matson replied lazily, "but I've never thought of them as particularly sheeplike. More like a wolf pack, I'd say."

"Wal, there's nothin' wolflike about 'em right now. Look, Dan'l, yuh know what a wolf pack's like. They're smart, tough, and mean—

an' the old boss wolf is the smartest, toughest, and meanest critter in the hull pack. The others respect him 'cuz he's proved his ability to lead. But take a sheep flock now—the bellwether is jest a nice gentle old castrate thet'll do jest whut the sheepherder wants. He's got no originality. He's jest a noise thet the rest foller."

"Could be."

"It shore is! Jes f'r instance, an' speakin' of bellwethers, have yuh ever heard of a character called Throckmorton Bixbee?"

"Can't say I have. He sounds like a nance."

"Whutever a nance is—he's it! But yuh're talkin' about our next President, unless all the prophets are wrong. He's jest as bad as his name. Of all the gutless wonders I've ever heard of that pilgrim takes the prize. He even looks like a rabbit!"

"I can see where I had better catch up on some contemporary history," Matson said. "I've been out in the sticks too long."

"If yuh know what's good fer yuh, yuh'll stay here. The rest of the country's goin' t'hell. Brother Bixbee's jest a sample. About the only thing that'd recommend him is that he's hot fer peace—an' he's got those furriners' blessing. Seems like those freaks swing a lotta weight nowadays, an' they ain't shy about tellin' folks who an' what they favor. They've got bold as brass this past year."

Matson nodded idly—then stiffened—turning a wide eyed stare on Seth. A blinding light exploded in his brain as the words sank in.

With crystal clarity he knew the answer! He laughed harshly.

Winters stared at him with mild surprise. "What's bit yuh, Dan'!"

But Matson was completely oblivious, busily buttressing the flash of inspiration. Sure—that was the only thing it could be! Those aliens were working on a program—one that was grimly recognizable once his attention was focussed on it. There must have been considerable pressure to make them move so fast that a short-lived human could see what they were planning—but Matson had a good idea of what was driving them, an atomic war that could decimate the world would be all the spur they'd need!

They weren't playing for penny ante stakes. They didn't want to exploit Mankind. They didn't give a damn about Mankind! To them humanity was merely an unavoidable nuisance—something to be pushed aside, to be made harmless and dependent, and ultimately to be quietly and bloodlessly eliminated. Man's civilization held nothing that the star men wanted, but man's planet—that was a different story! Truly the aliens were right when they considered man a savage. Like the savage, man didn't realize his most valuable possession was his land!

The peaceful penetration was what had fooled him. Mankind, faced with a similar situation, and working from a position of overwhelming strength would have reacted differently. Humanity would have invaded and conquered. But the aliens had not even considered this obvious step.

Why?

The answer was simple and logical. They couldn't! Even though their technology was advanced enough to exterminate man with little or no loss to themselves, combat and slaughter must be repulsive to them. It had to be. With their telepathic minds they would necessarily have a pathologic horror of suffering. They were so highly evolved that they simply couldn't fight—at least not with the weapons of humanity. But they could use the subtler weapon of altruism!

And even more important—uncontrolled emotions were poison to them. In fact Ixtl had admitted it back in Seattle. The primitive psi waves of humanity's hates, lusts, fears, and exultations must be unbearable torture to a race long past such animal outbursts. That was—must be—why they were moving so fast. For their own safety, emotion had to be damped out of the human race.

Matson had a faint conception of what the aliens must have suffered when they first surveyed that crowd at International Airport. No wonder they looked so strangely immobile at that first contact! The raw emotion must have nearly killed them! He felt a reluctant stir of admiration for their courage, for the dedicated bravery needed to face that crowd and establish a beachhead of tranquility. Those first few minutes must have had compressed in them the agonies of a lifetime!

Matson grinned coldly. The aliens were not invulnerable. If Mankind could be taught to fear

and hate them, and if that emotion could be focussed, they never again would try to take this world. It would be sheer suicide. As long as Mankind kept its emotions it would be safe from this sort of invasion. But the problem was to teach Mankind to fear and hate. Shock would do it, but how could that shock be applied?

The thought led inevitably to the only possible conclusion. The aliens would have to be killed, and in such a manner as to make humanity fear retaliation from the stars. Fear would unite men against a possible invasion, and fear would force men to reach for the stars to forestall retribution.

Matson grinned thinly. Human nature couldn't have changed much these past years. Even with master psychologists like the Aztlans operating upon it, changes in emotional pattern would require generations. He sighed, looked into the anxious face of Seth Winters, and returned to the reality of the desert night. His course was set. He knew what he had to do.

HE LAID THE rifle across his knees and opened the little leather box sewn to the side of the guncase. With precise, careful movements he removed the silencer and fitted it to the threaded muzzle of the gun. The bulky, blue excrescence changed the rifle from a thing of beauty to one of murder. He looked at it distastefully, then shrugged and stretched out on the mattress, easing the ugly muzzle through the hole in the brickwork.

It wouldn't be long now. . .

He glanced upward through the window above him at the Weather Bureau instruments atop a nearby building. The metal cups of the anemometer hung motionless against the metallic blue of the sky. No wind stirred in the deep canyons of the city streets as the sun climbed in blazing splendor above the towering buildings. He moved a trifle, shifting the muzzle of the gun until it bore upon the sidewalks. The telescopic sight picked out faces from the waiting crowd with a crystal clarity. Everywhere was the same sheeplike placidity. He shuddered, the sights jumping crazily from one face to another,—wondering if he had misjudged his race, if he had really come too late, if he had underestimated the powers of the Aztlans.

Far down the avenue, an excited hum came to his ears, and the watching crowd stirred. Faces lighted and Matson sighed. He was not wrong. Emotion was only suppressed, not vanished. There was still time!

The aliens were coming. Coming to cap the climax of their pioneer work, to drive the first nail in humanity's coffin! For the first time in history man's dream of the brotherhood of man was close to reality.

And he was about to destroy it! The irony bit into Matson's soul, and for a moment he hesitated, feeling the wave of tolerance and good will rising from the street below. Did he have the right to destroy man's dream? Did he dare tamper with the will of the world? Had he the right to play God?

The parade came slowly down the happy street, a kaleidoscope of color and movement that approached and went past in successive waves and masses. This was a gala day, this eve of world union! The insignie of the UN was everywhere. The aliens had used the organization to further their plans and it was now all-powerful. A solid bank of UN flags led the van of delegates, smiling and swathed in formal dress, sitting erect in their black official cars draped with the flags of native lands that would soon be furled forever if the aliens had their way.

And behind them came the Aztlan!

They rode together, standing on a pure white float, a bar of dazzling white in a sea of color. All equal, their inhumanly beautiful faces calm and remote, the Aztlan rode through the joyful crowd. There was something inspiring about the sight and for a moment, Matson felt a wave of revulsion sweep through him.

He sighed and thumbed the safety to "off", pulled the cocking lever and slid the first cartridge into the breech. He settled himself drawing a breath of air into his lungs, letting a little dribble out through slack lips, catching the remainder of the exhalation with closed glottis. The sights wavered and steadied upon the head of the center alien, framing the pale noble face with its aureole of golden hair. The luminous eyes were dull and introspective as the alien tried to withdraw from the emotions of the

crowd. There was no awareness of danger on the alien's face. At 600 yards he was beyond their esper range and he was further covered by the feelings of the crowd. The sights lowered to the broad chest and centered there as Matson's spatulate fingers took up the slack in the trigger and squeezed softly and steadily.

A coruscating glow bathed the bodies of three of the aliens as their tall forms jerked to the smashing impact of the bullets! Their metallic tunics melted and sloughed as inner fires ate away the fragile garments that covered them! Flexible synthetic skin cracked and curled in the infernal heat, revealing padding, wirelike tendons, rope-like cords of flexible tubing and a metallic skeleton that melted and dripped in white hot drops in the heat of atomic flame—

"Robots!" Matson gasped with sudden blinding realization. "I should have known! No wonder they seemed inhuman. Their builders would never dare expose themselves to the furies and conflicts of our emotionally uncontrolled world!"

One of the aliens crouched on the float, his four-fingered hands pressed against a smoking hole in his metal tunic. The smoke thickened and a yellowish ichor poured out bursting into flame on contact with the air. The fifth alien, Ixtl, was untouched, standing with hands widestretched in a gesture that at once held command and appeal.

Matson reloaded quickly, but

held his fire. The swarming crowd surrounding the alien was too thick for a clear shot and Matson, with sudden revulsion, was unwilling to risk further murder in a cause already won. The tall, silver figure of the alien winced and shuddered, his huge body shaking like a leaf in a storm! His builders had never designed him to withstand the barrage of focussed emotion that was sweeping from the crowd. Terror, shock, sympathy, hate, loathing, grief, and disillusionment—the incredible gamut of human feelings wrenched and tore at the Aztlan, shorting delicate circuits, ripping the poised balance of his being as the violent discordant blasts lanced through him with destroying energy! Ixtl's classic features twisted in a spasm of inconceivable agony, a thin curl of smoke drifted from his distorted tragic mask of a mouth as he crumpled, a pitiful deflated figure against the whiteness of the float.

The cries of fear and horror changed their note as the aliens' true nature dawned upon the crowd. Pride of flesh recoiled as the swarming humans realized the facts. Revulsion at being led by machines swelled into raw red rage. The mob madness spread as an ominous growl began rising from the streets.

A panicky policeman triggered it, firing his Aztlan-built shock tube into the forefront of the mob. A dozen men fell, to be trampled by their neighbors as a swarm of men and women poured over the struggling officer and buried him from sight. Like wildfire, pent-up emo-

tions blazed out in a flame of fury. The parade vanished, sucked into the maelstrom and torn apart. Fists flew, flesh tore, men and women screamed in high bitter agony as the mob clawed and trampled in a surging press of writhing forms that filled the street from one line of buildings to the other.

Half-mad with triumph, drunk with victory, shocked at the terrible form that death had taken in coming to Ixtl, Matson raised his clenched hands to the sky and screamed in a raw inhuman voice, a cry in which all of man's violence and pride were blended! The spasm passed as quickly as it came, and with its passing came exhaustion. The job was done. The aliens were destroyed. Tomorrow would bring reaction and with it would come fear.

Tomorrow or the next day man would hammer out a true world union, spurred by the thought of a retribution that would never come. Yet all that didn't matter. The important thing—the only important thing—was preserved. Mankind would have to unite for survival—or so men would think—and he would never disillusion them. For this was man's world, and men were again free to work out their own destiny for better or for worse, without interference, and without help. The golden dream was over. Man might fail, but if he did he would fail on his own terms. And if he succeeded—Matson looked up grimly at the shining sky. . .

Slowly he rose to his feet and descended to the raging street below.

END



Illustrated by Paul Orban

THE HERO

Willy was undoubtedly a hero.

The difficulty lies in deciding

which side he was on . . .

BY ELAINE WILBER

TWO MONTHS AFTER the landing, Ship UXB-69311 was rigged out with most things needed to make life bearable, if not interesting, for the crew. Perched on the manicured, blue-green sod of the planet Engraham, its inner parts were transformed and refitted for the many months of the Exploration. No effort and no flight of imagination had been spared to make the ship resemble more a country club than a barracks. With the permission of Colonel Mon-drain, the crew's bunkroom had been completely rearranged, and a segment thereof made into a quietly elegant bar. Plans for this eventual rejuvenation had been foment-

ing throughout the very tiresome and very monotonous journey.

When they first landed, the natives fled, and thus it was easy to liberate furnishings from the adjacent village. When the inhabitants returned, after the purposes of the visiting Earthman were acknowledged to be harmless, they proved to be too courteous to carp about a few missing articles.

The chairs, of a very advanced design and most comfortable, were made of a light and durable metal alloy thus far unknown to Earth. The bar (which was probably not its purpose on Engraham, no one knew or cared what its function had been) was of a design so futuristic that it would have turned a modern artist mad. The utensils, also liberated, were unbelievably delicate, yet strong and easy to wash. At first, since the Earth had not intended the Exploration to resemble the type that Texas-stationed servicemen like to run in Matamoros, there was nothing to drink in the utensils. But hardly six weeks had passed before the first hero of the Exploration, a man named O'Connors, discovered a palatable fruit growing on nearby bushes. By means of a system of improvised pipes (also liberated) it was no time at all before tasty beverages, somewhat strident but quite effective, were being run off and consumed in quantities. The machine known as O'Connors Joy-Juicer was concealed behind the bar, and all that was ever seen on the bar when Colonel Mondrain or the Doctors were around was an innocuous fruit juice.

The Earth Command had stocked the ship with reading material, most of it of a disgustingly educational nature, in photostatic cards: and the second hero of the Exploration was a man named Kosalowsky, who discovered in the psychology sections the works of Freud and Krafft-Ebing. After this discovery, a few interesting discussions arose.

After these changes had been made, there was very little to do.

The Earth Command had assumed that the natives of Engraham would resent the Explorations (most planets did), and so had sent along the crew of thirty men for protection. All had labored mightily to become part of this special crew, chosen for endurance and known war-like qualities. For once they got back to Earth, all were slated to be mustered out of service immediately, decorated to the ears, and awarded full, life-time pensions. Many already had contracts to appear on television and one man, Blunt, hinted at a long term Hollywood contract.

But once they got there, there was little to do after all. A guard was posted; instruments were checked; and, although the necessity seemed slight, the ship was kept primed for instantaneous emergency take-off. On the day corresponding to Earth's Saturday, the ship was G. I.'d from stem to stern. The maintenance crew made sure that no parts deteriorated or got liberated by enterprising natives. But the natives were not an inventive race. It was discovered by the Doctors (Anker, Frank, Pelham

and Flandeau) that the natives literally did not know how to steal. They were backward. Dr. Flandeau, who was making great strides with the language, reported that there was some evidence that the Engrahamites had once possessed this skill, along with murder, mayhem, bad faith, and politics, but had lost it, through a deterioration of the species.

Thus, once the ship had been transformed into a place worthy of human dwelling, and the beverage question had been solved, and utter, imbecilic boredom circumvented by the timely discoveries of Freud and Krafft-Ebing, the men found time hanging heavily on their hands; and the more the doctors discovered about the Engrahamites, the more dismal the situation became. The doctors, growing more and more fascinated by their tasks, left the ship bright and early each day, returning around nightfall to reduce their growing stacks of data to points of Earthly relevance. The Colonel was also out most of the time. He paid many social calls on the natives, who, being courteous, received him, and was often returned at night in a chauffeured native Hop-Hop. Life in the bunkroom became a sullen round of poker, reading of Krafft-Ebing, and gab; and Earth currency changed hands daily in the never-ending crap game.

For there was one great lack in their lives. This lack, and the inability to do anything about it, absorbed many hours of conversation. At first, complaints only occurred at intervals; but as weeks passed, the

lamentations became so fervent, so constant, and so heart-rending, that Dr. Flandeau observed to Dr. Frank that more stirring passages had not been made since the Jeremiad. For Dr. Flandeau, although aging, was in his off hours a poet, and a Frenchman always.

Dr. Frank said, "Yes, well, poor bastards."

At first, nostalgically, the crew harked back to happier times on Earth. Soon not one young lady of their collective acquaintance had escaped the most minute analysis. They were young men—the oldest, Blunt, was only twenty-six—and several of them had married young, greatly limiting their activities so that even their cumulative memories could not last forever. After several weeks, repetition began to set in. Once all successes had been lovingly remembered, down to the last, exquisite detail, they began recalling their failures. The master strategist, the unofficial referee of these seminars, was Dick Blunt.

"Now where you went wrong there," he would tell a fledgling reporting complete zero with a YWCA resident, "Was in making her feel that you were interested. Your line with a girl like that should be one of charity. Pure charity. You impress on her that you're doing her a terrific favor. You offer to bring to her dull life romance, adventure, tenderness."

"I couldn't even get my hands on her," complained the reproved failure, Herbert Banks.

"I've always found that type the easiest ones of all," Blunt said indifferently. "Dull, of course."

The testiness, the self-pity, the shortness of temper and the near-riots over stolen packages of cigarettes, were not improved after the Doctors, having surveyed the situation thoroughly, decided that it would do no harm to let the men of the crew go out on Liberty.

Fraternizing with natives was, of course, strictly forbidden. They were not to drink off premises. (Nor on, for that matter.) They were exhorted not to steal, not to engage in fights.

Still, they could walk around, take pictures of the strange pink houses and the dazzling cities. They could watch a covey of children swim in the municipal pools. They could look at the fountains, the so-called "miraculous fountains of Engraham", or climb the strange, glassy mountains. The natives, although shy of them, were most polite, and some smiled enchantingly—especially the women.

THIS WAS THE worst rub of all: there were women, and they were gorgeous. A little smaller than most Earth women, with bright eyes, and high, arched eyebrows, looking forever as if they had heard the most priceless joke. Their faces conformed to the most rigid standards of Caucasian beauty. Their legs, so delicate, so tapering, so fantastically small of ankle, were breath-taking. Their clothes, which would have driven a Parisian designer to suicide, were draped carelessly over the most exquisite figures. True, they were a little deficient in one department,

and this was explained, before they were granted liberty, by Dr. Flandeau. The women of Engraham, he said, did not bear children.

This announcement was not received with special gloom, for until then, none of the crew had seen an Engrahamite woman. But Willy Lanham, a dark-haired, skinny boy from Tennessee, asked, unhappily, "Don't they even go in for games or nothin'?"

Flandeau understood instantly. He shook his head sadly. "I should think not. It has been a long time since they have observed the normal functions. The women are mainly for decoration, although it is said that some are also created for brains. They are a most strange people."

After this—granted these agonizing liberties, and able to see that which was biologically unattainable—the crew became so demoralized that not even Kosalowsky's discovery of the works of Wilhelm Reik relieved the deep gloom.

However, they had reckoned without the superior genius of Dick Blunt. Blunt received Flandeau's news as unhappily as the others, and, like the rest, was made miserable by the sight of the glorious damozels. But he was a reasonable man and he put his reasoning powers to work. Soon he alone was cheerful. He went around with the absorbed, other-world look of a physicist grappling with a problem in ionospheric mathematics without the use of an IBM calculator. One day he went on Liberty alone. He did not return until the fall of night, and when he came in his

elation was so immoderate that the others thought there must be bars on Engraham after all.

"I have found the answer to our question," he said.

No one needed to ask what question. O'Connors hurried to pour Blunt a drink.

"I have spent the day pursuing this answer logically," said Blunt. "I have done what any thoughtful man would do. I have read up on it."

"How?" cried Henderson.

"At the library."

Blunt then described his day: finding his way to the library by means of pantomime; and finding at last, that file of photographs—photographs of an utterly self-explanatory nature. And these he pulled from his pocket, for ignoring all discipline, he had stolen them.

The pictures passed from hand to hand. O'Connors passed them on to Pane, and suddenly felt the need to open the window behind him. It was Willy Lanham, the boy from Tennessee, who voiced those exultant words that rose to the throats of all:

He said, "Hey! They're made just like the Earth girls."

The conversation, at this intensely interesting point, was cut short by the arrival of the Colonel. He alighted from the native Hop-Hop—waved cheerily to its driver, and began coming up. The bottle and glasses vanished, and Kosalowsky began to read aloud from a book especially reserved for these occasions. The men maintained looks of studious interest as the officer

went through. He went up the ladder to his own quarters, there to write in his growing volume, *THE COMING OCCUPATION AND GOVERNMENT OF ENGRAHAM*. They listened until his door clicked.

The conversation was resumed in more subdued tones.

"Do you think," said Pane shakily, "They still *could*?"

"Not a question of it," Blunt said. "These pictures prove it. It's what you might call a lost art. Once upon a time, as with all the fortunate parts of the galaxy, this art was known to the Engrahamites. Through some terrific foul-up, they lost it. Probably a combination of the science of incubation, and the reign of some ghastly square, like Queen Victoria. Thus were the girls of Engraham deprived of the pleasures of love."

"The men, too," said Willy. All glared at him reproachfully. To care about the happiness of the Engrahamite men was thought not quite patriotic.

"Gradually," Blunt went on, "they must have begun to lose interest. Probably there was some taboo. In the end they probably all thought, oh, to hell with it, and began serving on committees."

A long sigh went up.

"It is for us," Blunt said softly, treasuring each word, "to restore these unhappy maidens to their original human rights."

"But it isn't going to be easy," Blunt went on. His voice dropped even lower. "Think what would happen if it went sour. Those Doctors would get wind of it. We'd be

stuck in the Ship for the rest of the Exploration."

There was a sober pause. Finally Banks cleared his throat and said, "Well, how do you think it should be handled, Blunt?"

"Well, every beachhead needs an invasion," Blunt said, casually holding out his glass. O'Connors leapt to fill it. "One guy has got to lay the groundwork. Let him enlighten one quail. Explain things to her." He took a long, leisurely drink, and sighed. "This quail will rush around telling the others. Pretty soon there'll be so many hanging around the ship that—"

There was a general rush for cooling beverages.

"Right," someone said, when the faculty of speech was recovered.

"And necessarily," said Blunt, "this has to be the guy with the most savvy. The one who knows the score. The one most likely to succeed. Check?"

All knew what this was leading up to. Martin said unhappily, "Check, Blunt, You're our boy."

Blunt was scheduled to stand guard the next day, but Willy Lanham, eager to assist the cause, volunteered to take over for him. The hours seemed to creep by. His air was swaggering and cool when he returned, and all gathered round with eager curiosity—all but Lanham, who had not recovered from standing guard.

Blunt sauntered to the bar, accepted a drink, sipped it, lighted a cigarette, and took a long, pensive drag. Finally he said reminiscently, "What a doll!"

Pane, never a subtle man, cried in anguish, "Well, how'd you make out?"

Blunt smiled smugly. He began his recital. He was walking along the street and he met this gorgeous creature. A full description followed (broken by the arrival of the Colonel and two paragraphs of the DECLINE AND FALL) making it clear that this was the dish of dishes, the most beautiful of the beautiful, the most charming, and the most intelligent. She allowed herself to be addressed in Blunt's few words of Engrahamic and, smiling ever patiently, sat with him for several hours. Their talk took place in a secluded bower, in one of the many parks. She was agreeable and charmed and promised to see him again. He even managed, through terrific feats of pantomime, to impress on her the need of secrecy in future meetings.

"That was all?" someone said, when he finished.

"For the first meeting, I think I did wonders," said Blunt. "After all, sex hasn't been known here since a time corresponding to our Stone Age."

Later, when the nightly poker game was beginning, Willy Lanham said, "Why didn't you just make a grab for her?"

"That's the hill-billy approach," Blunt said disdainfully. "These girls are civilized—very, very civilized. It's important not to shock them."

BLUNT'S NEXT gambit was to set about learning the language. For this he went not to

Flandeau, who best knew it, but to Ankers, who was a pure scientist in every sense of the word, and not so likely to suspect his motives. The girl proved very cultured. She took him to art galleries, to symphonies, and mountain climbing, for scrambling up and down the glassy hills was a favorite Engrahamic sport. As he advanced in the language, he learned that her name was Catataphinaria, which meant "she will attain relative wisdom". He found that she worked for the Eleven who, while not rulers, offered general suggestions which the populace more or less followed.

Although his slow progress inevitably bored the crew, still, it offered that one precious ray of hope, and they became so tractable that even the Doctors noticed it. They laid it to the secret ingredient that Dr. Frank had introduced into the drinking water.

The summer wore on, becoming hotter each day. By the end of the second month of his courtship, Blunt began to speak to her of love.

She laughed. She said that she had little curiosity on the subject, although it was now and then mentioned by the students of antiquity. Assured that it was pleasurable, she said that she heard that barbarians also enjoyed murdering people and making them butts of jokes.

Willy Lanham said, "Don't listen to what a girl says. Just make a grab for her."

This suggestion was laughed to scorn.

Weeks passed, the summer began to wane. Tempers again began

to shorten. Flandeau said to Frank, "The men are worse again."

"Yes, perhaps we should increase the dosage."

The fruits for the Joy-Juicer grew thin on the silvery bushes, and men ranged far and wide, putting in supplies for the winter.

One night, when Blunt had won at poker, all the men lay in their bunks, too dispirited to drink, to shoot craps, almost too miserable even for speech. Blunt again began talking of Catataphinaria. Drowsily Lanham said, "I think you're going at it the wrong way, Dick. Try some real rough stuff. You know—kiss her. She might like it."

Before Blunt could defend his strategy, Kosalowsky sat up in his bunk. "Yes, for cripes sake," he said, "Move in for the kill. Or shut up about it. You're driving us all nuts."

"Would you like to try?" Blunt suggested softly.

"Sure I'll try," Kosalowsky said. He turned on the light over his bunk. "Give me a crack at her. I could have managed it weeks ago. All you've done is talk to the quail."

"Yah, Dick, maybe you're using the wrong approach on this one," O'Connors suggested.

"It's the damn places you take her," Kosalowsky said. "Art galleries. Anybody ever seduce a girl in an art gallery? Symphonies. Popping around in her damn Hop-Hop. Can't you ever get her alone?"

"She lives with ten other girls," Blunt said sulkily. "They're all

home all the time."

"Well, bring her here, then," Pane suggested. "We'll all take a powder."

"Where?"

There was no answer. They could not all, by day, desert the ship, and it was getting too chilly for the crew to hide in adjacent shrubbery. "We could put up a wall," Pane said suddenly, "between the bunks and the bar."

"With what?"

"I know," Banks said eagerly, "where there's a whole pile of stuff. It's nice thin metal, just lying there getting rusty."

"I think you're premature—"

"Premature!" Kosalowsky shouted. "Six months you've been chasing this tomato. You call that premature?"

"Only four by Engrahamic time," Blunt said, insulted.

"Listen," Kosalowsky said, "that wall goes up tomorrow. And you're smuggling her in tomorrow night. Or else," he said, glaring at Blunt, "after that it's every man for himself. Check?"

Blunt, only slightly seen in the light from Kosalowsky's bunk, was white with rage. "All right, guys," he said stonily. "I've been trying to do right by this frail. Nothing abrupt or hillbilly. Nothing to hurt her delicate feelings or her fine mind. But if this is how you want it—Okay!"

The next day the wall went up.

Hardly a word was said as it was hammered in place. Once up, the place was G. I.'d thoroughly. The ash trays were washed, the

floor vacuumed, and the lights adjusted to achieve the most tellingly seductive effect. Blunt went out at two, thin-lipped and silent.

"The jerk," Kosalowsky said, "I think he's a lot of hot air. That's what I think."

The Colonel came in at nightfall and asked about the wall. They told him that it was to cut off the recreation section from the sleeping quarters, for the protection of those who wanted more sleep to prepare for the grueling winter watches.

"Very good idea men," the Colonel said, and went upstairs to write another chapter in his book.

At nine the men disappeared into their bunks. O'Connors won the responsible job of peering through the narrow slit in the wall. Behind him could be heard the labored breathing of twenty-seven distraught men. One man snored. "Wake up, you stupid ass," Pane told Lanham. "You'll wreck the show."

At last the door opened and Blunt came in—with the girl.

She was breath-taking. She wore, O'Connors reported, a dress cut to here—and her hair was piled high on her patrician head. Blunt had not lied. She was even prettier than the usual run of Engraham girls.

"He's offering her a drink," O'Connors whispered.

"She take it?"

"No—she's sitting at the bar. He's having one, though. He's turning on the hi-fi."

He did not have to tell them, since all could hear the soft music. They had selected a program of melodies considered sure-fire.

"He's talking to her—putting his arm around her waist. Oh-oh. She knocked it off. She's laughing, though."

In the silence they all heard her laugh. Several men moved uncomfortably. "He's leading her toward the couch—oh-oh—she stopped to look at the radar screen."

It was the auxiliary radar, not the important one in the control room. "What's he doing?"

"Telling her—he's edging her to the couch again—now she's asking about the Bassett Blaster. They're fooling around with the gun. He's showing her how it works—trying to put his hands—!"

This last was lost, for there was a sudden, resounding blast. Their bunks, the entire ship, trembled.

The meaning was clear to all. They flattened to their bunks, and waited tensely. They heard a sound, the sound of a foot kicking a body. A hand scratched tentatively along the wall.

No one moved. "She killed him." O'Connors voice was no more than a slight whisper. "Lay low—lay low."

Then a woman's voice said, in perfect English, "All right, you men. Come out of there."

The door was found and flung open. Catataphinaria stood in the dim light—still holding the Blaster. She said again, more sharply, "I said, Come out of there!"

Clumsily, they came down from their bunks.

"Now," she said, as she had them all against the wall, "call down the others."

But this was unnecessary, for the

Doctors and the Colonel were already descending the ladder. They turned quite white at the sight of her. Wordlessly, she indicated that they were to join the others. The Doctors found it harder to adjust to a purely military sort of emergency. Ankers asked clearly, "What on earth is this nonsense?"

"No nonsense," the girl said. "Just do as I say. First, surrender all your papers."

"Our papers?"

"Your research. Your conclusions. Everything."

Henderson said, "I'll go get it, Ma'am."

"I would also like the Colonel's amusing work on the coming occupation."

"I know where it is, sir," Martin said swiftly. "I'll get it."

The Colonel's expression was stony. He nodded to Martin to get it, and it occurred to him that the girl was one of those whom he had personally selected as the most promising for the puppet governments. But when he asked about her identity, she cut him off without a word.

"Then, may I ask where you learned such flawless English?"

"All of us know English," she said. "It is a very stupid language."

Martin and Henderson returned with the papers. Gingerly they approached her, handed the papers to her, and darted back to their places in the line. She placed the stack on the bar, leafed through it, all the while keeping them covered with the Blaster, and remarked on finishing, "It is exactly what one would expect barbarians to find

interesting."

Flandeau, however, remained a scientist to the last.

"We find ourselves unhappily deceived," he said. "We were certain—that you were utterly without defenses. We were told that you did not know *how* to lie, cheat, dissemble, or fight."

"Only not with each other," she said. "It was, so to speak, a lost art." She glanced at Blunt. Several men squirmed. "But it is one that we have regained," she said.

"And what will you do with us?" Flandeau asked.

"We have decided to let you go," she said. "Now that we possess this weapon,"—she brandished the Blaster—"which we can copy, we think we can prevent more Explorations. At least this is the opinion of the Eleven. So I am instructed to let you leave—at once, of course."

"You are most charming," said Flandeau.

"At once," she repeated.

"Yes, of course. Men! Prepare for blastoff!"

THE WAY BACK was tedious—the floating around, the boredom, the unending blackness of space—but at least it was going home. After the first weeks of space-sickness, things returned to near normal, and the Doctors conferred with the Colonel. It was decided that the best report should be that Engraham was uninviting, bleak, and of no interest to Earthmen. The reputations of all were at stake (the doctors found them-

selves, stripped of their papers, unable to recollect enough, and the Colonel desperately feared a court-martial) and the crew was thus advised. All agreed to keep their mouths shut. Thus their honorable discharges, medals, and life-time pensions would be safe.

So, with all this decided, and Earth only a few months away, relative cheerfulness reigned. Only Willy Lanham continued to mope.

"What's biting you?" Kosalowsky asked, one day as they lay strapped in adjacent bunks. "Your face is as long as this ship."

"I just feel bad," Willy said. "I can feel bad if I want to, can't I?"

"What the hell, we'll soon be home. We can really raise some hell, then."

"I miss my girl," Willy blurted out.

"You'll see her pretty soon."

"I mean my girl on Engraham."

It happened that just then several other men, bored with lying still, were floating past. They gripped the edges of Willy's bunk.

"You mean you had," Kosalowsky said cunningly, "a girl on Engraham?"

"Sure I did," said Willy defensively. "Didn't all you guys?"

More and more men joined the knot of bodies around Willy's bunk. The atmosphere became distinctly menacing.

"You mean you didn't?" Willy said. "You mean it wasn't a gag we were pulling on Blunt?"

They were silent. One pair of floating hands neared Willy's throat.

"Honest," he said. "I didn't

think you were that dumb. I thought you were just letting Blunt make an ass of himself. I thought that—well, it was so easy. I even told Dick a couple of times. You just had to make a grab for 'em."

Pane suddenly let out a harsh sound, like the cry of a wounded bull.

"So who was this frail?" Ko-

salowsky asked heavily.

"Yeah!" echoed the others.

"Well, she was just a frail, I guess," Willy said. "I used to see her around the ship. On guard duty. I used to see her all the time. What the hell," he said, "You think I'm dumb or something? Why'd you think I was willing to stand guard all the time?"

END

What Is Your Science I. Q.?

LAND, sea, air or otherwise! Score 5 points for each correct answer; 50 is about average for the course. Anything more makes you really science-minded. Answers on page 115.

1. What is a dodecahedron?
2. In which constellation is the Milky Way?
3. What is unusual about the sulfur content of sea water?
4. What metal is referred to when the word stannous is used?
5. What determines the boiling point of a substance?
6. What is aerology?
7. Arrange the following according to Moh's scale: topaz, gypsum, fluorite.
8. What are the six devices known as simple machines?
9. What is polymerization?
10. What is the name of element 102?
11. What makes fungi and algae similar?
12. What are the constituents of a solution of aqua regia?
13. What would 12 on the Beaufort scale indicate?
14. What is the Curie point?
15. Name three ways in which fungi reproduce.

(The following is taken from the files of the Medical Disciplinary Board, Hospital Earth, from the preliminary hearings in re: The Profession vs. Samuel B. Jenkins, Physician; First Court of Medical Affairs, final action pending.)

COM COD S221VB73 VOROCHISLOV SECTOR; 4th GALACTIC PERIOD 22, 2341 GENERAL SURVEY SHIP MERCY TO HOSPITAL EARTH
VIA: FASTEST POSSIBLE ROUTING, PRIORITY UNASSIGNED

TO: Lucius Darby, Physician Grade I, Black Service Director of Galactic Periphery Services, Hospital Earth

FROM: Samuel B. Jenkins, Physician Grade VI, Red Service General Practice Patrol Ship *Lancet* (Attached GSS *Mercy* pro tem)

SIR: The following communication is directed to your attention in hopes that it may anticipate various charges which are certain to be placed against me as a Physician of the Red Service upon the return of the General Survey Ship *Mercy* to Hospital Earth (expected arrival four months from above date).

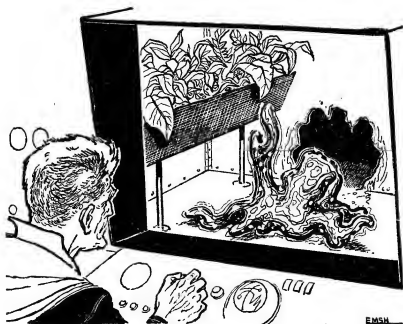
These charges will undoubtedly be preferred by one Turvold Neelsen, Physician Grade II of the Black Service, and Commander of the *Mercy* on its current survey mission into the Vorochislov Sector. Exactly what the charges will be I cannot say, since the Black Doctor in question refuses either



Illustrated by Ed Emsch

CONTAMINATION CREW

BY ALAN E. NOURSE



Orders were orders! The creature had to be killed.

But just how does one destroy the indestructible?

audience or communication with me at the present time; however, it seems likely that treason, incompetence and mutinous insubordination will be among the milder complaints registered. It is possible that even Malpractice might be added, so you can readily understand the reasons for this statement—

The following will also clarify my attached request that the GSS *Mercy*, upon arrival in orbit around Hospital Earth, be met immediately by a decontamination ship carrying a vat of hydrochloric acid, concentration 3.7%, measuring no less than twenty by thirty by fifty feet, and that Quarantine officials be prepared to place the entire crew of the *Mercy* under physical and psychiatric observation for a period of no less than six weeks upon disembarkation.

The facts, in brief, are as follows:

Three months ago, as crew of the General Practice Patrol Ship *Lancet*, my colleague Green Doctor Wallace Stone and myself began investigating certain peculiar conditions existing on the fourth planet of Mauki, Vorochislov Sector (Class I Medical Service Contract.) The entire population of that planet was found to be suffering from a mass psychotic delusion of rather spectacular proportions: namely, that they and their entire planet were in imminent danger of being devoured, in toto, by an indestructible non-humanoid creature which they called a *hlorg*. The Maukivi were insistent that a *hlorg* had already totally consumed a non-existent outer planet

in their system, and was now hard at work on neighboring Mauki V. It was their morbid fear that Mauki IV was next on its list. No amount of reassurance could convince them of the foolishness of these fears, although we exhausted our energy, our patience, and our food and medical supplies in the effort. Ultimately we referred the matter to the Grey Service, feeling confident that it was a psychiatric problem rather than medical or surgical. We applied to the GSS *Mercy* to take us aboard to replenish our ship's supplies, and provide us a much-needed recovery period. The Black Doctor in command approved our request and brought us aboard.

The trouble began two days later. . .

THERE WERE THREE classes of dirty words in use by the men who travelled the spaceways back and forth from Hospital Earth.

There were the words you seldom used in public, but which were colorful and descriptive in private use.

Then there were the words which you seldom used even in private, but which effectively relieved feelings when directed at mirrors, inanimate objects, and people who had just left the room.

Finally, there were the words that you just didn't use, period. You knew they existed; you'd heard them used at one time or another, but to hear them spoken out in plain Earth-English was enough

to rock the most space-hardened of the Galactic Pill Peddlers back on his well-worn heels.

Black Doctor Turvold Neelsen's Earth-English was spotty at best, but the word came through without any possibility of misinterpretation. Red Doctor Sam Jenkins stared at the little man and felt his face turning as scarlet as the lining of his uniform cape.

"But that's ridiculous!" he finally stammered. "Quite aside from the language you use to suggest it."

"Ah! So the word still has some punch left, eh? At least you puppies bring something away from your Medical Training, even if it's only taboos." The Black Doctor scowled across the desk at Jenkins' lanky figure. "But sometimes, my good Doctor, it is better to face a fact than to wait for the fact to face you. Sometimes we have to crawl out of our ivory towers for a minute or two—you know?"

Jenkins reddened again. He had never had any great love for physicians of the Black Service—who did?—but he found himself disliking this short, blunt-spoken man even more cordially than most. "Why implicate the *Lancet*?" he burst out. "You've landed the *Mercy* on plenty of planets before we brought the *Lancet* aboard her—"

"But we did not have it with us before the *Lancet* came aboard, and we do have it now. The implication is obvious. You have brought aboard a contaminant."

He'd said it again.

Red Doctor Jenkin's face darkened. "The Green Doctor and I

have maintained the *Lancet* in perfect conformity with the Sterility Code. We've taken every precaution on both landing and disembarking procedures. What's more, we've spent the last three months on a planet with no mutually compatible flora or fauna. From Hospital Earth viewpoint, Mauki IV is sterile. We made only the briefest check-stop on Mauki V before joining you. It was a barren rock, but we decontaminated again after leaving. If you have a—a contaminant on board your ship, sir, it didn't come from the *Lancet*. And I won't be held responsible."

It was strong language to use to a Black Doctor, and Sam Jenkins knew it. There were doctors of the Green and Red Services who had spent their professional lives on some god-forsaken planetoid at the edge of the Galaxy for saying less. Red Doctor Sam Jenkins was too near the end of his Internship, too nearly ready for his first Permanent Planetary Appointment with the rank, honor, and responsibility it carried to lightly risk throwing it to the wind at this stage—

But a Red Doctor does not bring a contaminant aboard a survey ship, he thought doggedly, no matter what the Black Doctor says—

Neelsen looked at the young man slowly. Then he shrugged. "Of course, I'm merely a pathologist. I realize that we know nothing of medicine, nor of disease, nor of the manner in which disease is spread. All this is beyond our scope. But perhaps you'll permit one simple question from a dull old man, just to humor him."

Jenkins looked at the floor. "I'm sorry, Sir."

"Just so. You've had a very successful cruise this year with the *Lancet*, I understand."

Jenkins nodded.

"A most successful cruise. Four planets elevated from Class IV to Class II contracts, they tell me. Morua II elevated from Class VI to Class I, with certain special riders. A plague-panic averted on Setman I, and a very complex virus-bacteria symbiosis unravelled on Orb III. An illustrious record. You and your colleague from the Green Service are hoping for a year's exemption from training, I imagine—" The Black Doctor looked up sharply. "You searched your holds after leaving the Mauki planets, I presume?"

Jenkins blinked. "Why—no, sir. That is, we decontaminated according to—"

"I see. You didn't search your holds. I suppose you didn't notice your food supplies dwindling at an alarming rate?"

"No—" The Red Doctor hesitated. "Not really."

"Ah." The Black Doctor closed his eyes wearily and flipped an activator switch. The scanner on the far wall buzzed into activity. It focussed on the rear storage hold of the *Mercy* where the little *Lancet* was resting on its landing rack. "Look closely, Doctor."

At first Jenkins saw nothing. Then his eye caught a long, pink glistening strand lying across the floor of the hold. The scanner picked up the strand, followed it to the place where it emerged from a

neat pencil-sized hole in the hull of the *Lancet*. The strand snaked completely across the room and disappeared through another neat hole in the wall into the next storage hold.

Jenkins shook his head as the scanner flipped back to the hole in the *Lancet's* hull. Even as he watched, the hole enlarged and a pink blob began to emerge. The blob kept coming and coming until it rested soggily on the edge of the hole. Then it teetered and fell *splat* on the floor.

"Friend of yours?" the Black Doctor asked casually.

It was a pink heap of jelly just big enough to fill a scrub bucket. It sat on the floor, quivering noisily. Then it sent out pseudopods in several directions, probing the metal floor. After a few moments it began oozing along the strand of itself that lay on the floor, and squeezed through the hole into the next hold.

"Ugh," said Sam Jenkins, feeling suddenly sick.

"The hydroponic tanks are in there," the Black Doctor said. "You've seen one of those before?"

"Not in person." Jenkins shook his head weakly. "Only pictures. It's a *hlorg*. We thought it was only a Maukivi persecution fantasy."

"This thing is growing pretty fast for a persecution fantasy. We spotted it eight hours ago, demolishing what was left of your food supply. It's twice as big now as it was then."

"Well, we've got to get rid of it," said Jenkins, suddenly coming to life.

"Amen, Doctor."

"I'll get the survey crew alerted right away. We won't waste a minute. And my apologies." Jenkins was hurrying for the door. "I'll get it cleared out of here fast."

"I do hope so," said the Black Doctor. "The thing makes me ill just to think about."

"I'll give you a clean-ship report in twenty-four hours," the Red Doctor said as confidently as he could and beat a hasty retreat down the corridor. He was wishing fervently that he felt as confident as he sounded.

The Maukivi had described the *hlog* in excruciating detail. He and Green Doctor Stone had listened, and smiled sadly at each other, day after day, marvelling at the fanciful delusion. *Hlogs*, indeed! And such creatures to dream up—eating, growing, devouring plant, animal and mineral without discrimination—

And the Maukivi had stoutly maintained that this *hlog* of theirs was indestructible—

GREEN DOCTOR Wally Stone, true to his surgical calling, was a man of action.

"You mean there *is* such a thing?" he exploded when his partner confronted him with the news. "For real? Not just somebody's pipe dream?"

"There is," said Jenkins, "and we've got it. Here. On board the *Mercy*. It's eating like hell-and-gone and doubling its size every eight hours."

"Well what are you waiting for?

Toss it overboard!"

"Fine! And what happens to the next party it happens to land on? We're supposed to be altruists, remember? We're supposed to worry about the health of the Galaxy." Jenkins shook his head. "Whatever we do with it, we have to find out just what we're tossing before we toss."

The creature had made itself at home aboard the *Mercy*. In the spirit of uninvited guests since time immemorial, it had established a toehold with remarkable asperity, and now was digging in for the long winter. Drawn to the hydroponic tanks like a flea to a dog, the *hlog* had settled its bulbous pink body down in their murky depths with a contented gurgle. As it grew larger the tank-levels grew lower, the broth clearer.

The fact that the twenty-five crewmen of the *Mercy* depended on those tanks for their food supply on the four-month run back to Hospital Earth didn't seem to bother the *hlog* a bit. It just sank down wetly and began to eat.

Under Jenkins' whip hand, and with Green Doctor Stone's assistance, the Survey Crew snapped into action. Survey was the soul and lifeblood of the medical services supplied by Hospital Earth to the inhabited planets of the Galaxy. Centuries before, during the era of exploration, every Earth ship had carried a rudimentary Survey Crew—a physiologist, a biochemist, an immunologist, a physician—to determine the safety of landings on unknown planets. Other races were more advanced in technological

and physical sciences, in sales or in merchandising—but in the biological sciences men of Earth stood unexcelled in the Galaxy. It was not surprising that their casual offerings of medical services wherever their ships touched had led to a growing demand for those services, until the first Medical Service Contract with Deneb III had formalized the planetary specialty. Earth had become Hospital Earth, physician to a Galaxy, surgeon to a thousand worlds, midwife to those susceptible to midwifery and psychiatrist to those whose inner lives zigged when their outer lives zagged.

In the early days it had been a haphazard arrangement; but gradually distinct Services appeared to handle problems of medicine, surgery, radiology, psychiatry and all the other functions of a well-appointed medical service. Under the direction of the Black Service of Pathology, Hospital ships and Survey ships were dispatched to serve as bases for the tiny General Practice Patrol ships that answered the calls of the planets under Contract.

But it was the Survey ships that did the basic dirty-work on any new planet taken under Contract—outlining the physiological and biochemical aspects of the races involved, studying their disease patterns, their immunological types, their susceptibility to medical, surgical, or psychiatric treatment. It was an exacting service to perform, and Survey did an exacting job.

Now, with their own home base

invaded by a hungry pink jelly-blob, the Survey Crew of the *Mercy* dug in with all fours to find a way to exorcise it.

The early returns were not encouraging.

Bowman, the anatomist, spent six hours with the creature. He'd go after the functional anatomy first, he thought, as he approached the task with gusto. Special organs, vital organ systems—after all, every Achilles had his heel. Functional would spot it if anything would—

Six hours later he rendered a preliminary report. It consisted of a blank sheet of paper and an expression of wild frustration.

"What's this supposed to mean?" Jenkins asked.

"Just what it says."

"But it says nothing!"

"That's exactly what it means."

Bowman was a thin, wistful-looking man with a hawk nose and a little brown mustache. He subbed as ship's cook when things were slow in his specialty. He wasn't a very good cook, but what could anyone do with the sludge from the harvest shelf of a hydroponic tank? Now, with the *hlorg* incumbent, there wasn't even any sludge.

"I drained off a tank and got a good look at it before it crawled over into the next one," Bowman said. "Ugly bastard. But from a strictly anatomical standpoint I can't help you a bit."

Green Doctor Stone glowered over Jenkins' shoulder at the man. "But surely you can give us *something*."

Bowman shrugged. "You want it

technical?"

"Any way you like."

"Your *hlog* is an ideal anamorph. A nothing. Protoplasm, just protoplasm."

Jenkins looked up sharply. "What about his cellular organization?"

"No cells," said Bowman. "Unless they're sub-microscopic, and I'd need an electron-pecker to tell you that."

"No organ systems?"

"Not even an integument. You saw how slippery he looked? That's why. There's nothing holding him in but energy."

"Now, look," said Stone. "He eats, doesn't he? He must have waste materials of some sort."

Bowman shook his head unhappily. "Sorry. No urates. No nitrates. No CO₂. Anyway, he doesn't eat because he has nothing to eat with. He absorbs. And that includes the lining of the tanks, which he seems to like as much as the contents. He doesn't *bore* those holes he makes—he *dissolves* them."

They sent Bowman back to quarters for a hot bath and a shot of Happy-O and looked up Hrunta, the biochemist.

Hrunta was glaring at paper electrophoretic patterns and pulling out chunks of hair around his bald spot. He gave them a snarl and shoved a sheaf of papers into their hands.

"Metabolic survey?" Jenkins asked.

"Plus," said Hrunta. "You're not going to like it, either."

"Why not? If it grows, it metabolizes. If it metabolizes we can

kill it. Axiom number seventeen, paragraph number four."

"Oh, it metabolizes, all right, but you'd better find yourself another axiom, pretty quick."

"Why?"

"Because it not only metabolizes, it *consumes*. There's no sign of the usual protein-carbohydrate-fat metabolism going on here. This baby has an enzyme system that's straight from hell. It bypasses the usual metabolic activities that produce heat and energy and gets right down to basic-basic."

Jenkins swallowed. "What do you mean?"

"It attacks the nuclear structure of whatever matter the creature comes in contact with. There's a partial mass-energy conversion in its rawest form. The creature goes after carbon-bearing substances first, since the C seems to break down more easily than anything else—hence its preference for plant and animal material over non-C stuff. But it can use anything if it has to—"

Jenkins stared at the little biochemist, an image in his mind of the pink creature in the hold, growing larger by the minute as it ate its way through the hydroponics, through the dry stores, through—

"Is there anything it *can't* use?"

"If there is, I haven't found it," Hrunta said sadly. "In fact, I can't see any reason why it couldn't consume this ship and everything in it, right down to the last rivet—"

THEY WALKED DOWN to the hold for another look at

their uninvited guest, and almost wished they hadn't.

It had reached the size of a small hippopotamus, although the resemblance ended there. Twenty hours had elapsed since the survey had begun. The *hlog* had used every minute of it, draining the tanks, engulfing dry stores, devouring walls and floors as it spread out in search of food, leaving trails of eroded metal wherever it went.

It was ugly—ugly in its pink shapelessness, ugly in its slimey half-sentient movements, in its very *purposefulness*. But its ugliness went even deeper, stirring primordial feelings of revulsion and loathing in their minds as they watched it oozing implacably across the hold to another dry-storage bin.

Wally Stone shuddered. "It's grown."

"Too fast. Bowman charts it as geometric progression."

Stone scratched his jaw as a lone pink pseudopod pushed out on the floor toward him. Then he leaped forward and stamped on it, severing the strand from the body.

The severed member quivered and lay still for a moment. Then it flowed back to rejoin the body with a wet gurgle.

Stone looked at his half-dissolved shoe.

"Egotropism," Jenkins said. "Bowman played around with that, too. A severed piece will rejoin if it can. If it can't it just takes up independent residence and we have two *hlogs*."

"What happens to it outside the ship?" Stone wanted to know.

"It falls dormant for several

hours, and then splits up into a thousand independent chunks. One of the boys spent half of yesterday out there gathering them up. I tell you, this thing is equipped to *survive*."

"So are we," said Green Doctor Stone grimly. "If we can't outwit this free-flowing gob of obscenity, we deserve anything we get. Let's have a conference."

They met in the pilot room. The Black Doctor was there; so were Bowman and Hrunta. Chambers, the physiologist, was glumly clasping and unclasping his hands in a corner. The geneticist, Piccione, drew symbols on a scratch pad and stared blankly at the wall.

Jenkins was saying: "Of course, these are only preliminary reports, but they serve to outline the problem. This is not just an annoyance any longer, it's a crisis. We'd all better understand that."

The Black Doctor cut him off with a wave of his hand, and glowered at the papers as he read them through minutely. As he sat hunched at the desk with the black cowl of his office hanging down from his shoulders he looked like a squat black judge, Jenkins thought, a shadow from the Inquisition, a Passer of Spells. But there was no medievalism in Black Doctor Neelsen. In fact, it was for that reason, and only that reason, that the Black Service had come to be the leaders and the whips, the executors and directors of all the manifold operations of Hospital Earth.

The physicians of the General

ALAN E. NOURSE

Practice Patrol were fledglings, newly trained in their specialties, inexperienced in the rigorous discipline of medicine that was required of the directors of permanent Planetary Dispensaries in the heavily populated systems of the Galaxy. On outlying worlds where little was known of the ways of medicine, the temptation was great to substitute faith for knowledge, cant for investigation, nonsense rituals for hard work. But the physicians of the Black Service were always waiting to jerk wandering neophytes back to the scientific disciplines that made the service of Hospital Earth so effective. The Black Doctors would not tolerate sloppiness. "Show me the tissue, Doctor," they would say. "Prove to me that what you say is so. Prove that what you did was valid medicine . . ." Their laboratories were the morgues and autopsy rooms of a thousand planets, the Temples of Truth from which no physician since the days of Pasteur and Lister could escape for long and retain his position.

The Black Doctors were the pragmatists, the gadflies of Hospital Earth.

For this reason it was surprising to hear Black Doctor Neelsen saying, "Perhaps we are being too scientific, just now. When the creature has exhausted our food stores, it will look elsewhere for food. Perhaps we must cut at the tree and not at the root."

"A frontal attack?" said Jenkins.

"Just so. Its enzyme system is its vulnerability. Enzyme systems operate under specific optimum

conditions, right? And every known enzyme system can be inactivated by adverse conditions of one sort or another. A physical approach may tell us how in this case. Meanwhile we will be on emergency rations, and hope that we don't starve to death finding out." The Black Doctor paused, looking at the men around him. "And in case you are thinking of enlisting help from outside, forget it. I've sent plague-warnings out for Galactic relay. We have this thing isolated, and we're going to keep it that way as long as I command this ship."

They went gloomily back to their laboratories to plan their frontal attack.

That was the night that Hrunta disappeared.

HE WAS GONE when they came to wake him from his sleep period. His bunk had been slept in, but he wasn't in it. In fact, he wasn't anywhere on the ship.

"But he couldn't just vanish!" the Black Doctor burst out when they told him the news. "Maybe he's hiding somewhere. Maybe this business was working on his mind."

Green Doctor Stone took a crew of men to search the ship again, even though he considered it a waste of precious time. He had his private convictions about where Hrunta had gone.

So did every other man on the ship, including Jenkins.

The *hlorg* had stopped eating. Huge and round and wet and ugly,

it squatted in the after hold, quivering gently, without any other sign of life.

Surfeited. Like a fat man after a turkey dinner.

Jenkins reviewed progress with the others. No stone had been left unturned. They had sliced the *hlorg*, and squeezed it. They had boiled it and frozen it. They had dropped chunks of it in acid vats and covered other chunks with dessicants and alkalis. Nothing seemed to bother it.

A cold environment slowed down its activity, true, but it also stimulated the process of fission. Warmed up again, the portions sucked back together again and resumed eating.

Heat was a little more effective, but not much. It stunned the creature for a brief period, but it would not burn. It hissed frightfully and gave off an overpowering stench, and curled up at the edges, but as soon as the heat was turned off it began to recover.

In Hrunta's lab chunks of the *hlorg* sat in a dozen vats on tables and in sinks. Some contained antibiotics, some concentrated acids, some dessicants. In each vat a blob of pink protoplasm wiggled happily, showing no sign of discomfort. On another table were the remains of Hrunta's (unsuccessful) attempt to prepare an anti-*hlorg* serum.

But no Hrunta.

"He was down there with the thing all day," Bowman said sadly. "He felt it was his responsibility, really. Hrunta thought biochemistry was the answer to all things, of course. Very conscientious man."

"But he was in *bed*."

"He claimed he did his best thinking in bed. Maybe he had a brainstorm and went down to try it out, and—"

"Yes," Jenkins nodded sourly. "And." He walked down the row of vats. "You'd think that at least concentrated sulphuric would dessicate it a little. But it's just formed a crust of coagulated protein around itself, and sits there—"

Bowman peered over his shoulder, his mustache twitching. "But it does dessicate."

"If you use enough long enough."

"How about concentrated hydrochloric?"

"Same thing. Maybe a little more effective, but not enough to count."

"Okay. Next we try combinations. There's got to be *something* the wretched beast can't tolerate—"

There was, of course.

Green Doctor Stone brought it to Jenkins as he was getting ready to turn in for a sleep period. Jenkins had checked to make sure double guards were posted in the *hlorg's* vicinity, and jolted them with Sleep-Not to keep them on their toes. All the same, he tied a length of stout cord around his ankle just to make sure he didn't do any sleepwalking. He was tying it to the bunk when Stone came in with a pan in his hand and a peculiar look on his face.

"Take a look at this," he said.

Jenkins looked at the sickly brown mass in the tray, and then up at Stone. "Where did you find it?"

"Down in the hold. Our *hlorg* has broken precedent. It's *rejected* something that it ate."

"Yeah. What is it?"

"I don't know. I'm taking it to Neelsen for paraffin sections. But I know what it looks like to me."

"Mm. I know." Jenkins felt sick. Stone headed up to the path lab, leaving the Red Doctor settled in his bunk.

Ten minutes later Jenkins sat bolt upright in the darkness. Frantically he untied himself and slid into his clothes. "Idiot!" he growled to himself. "Seventh son of a seventh son—"

Five minutes later he was staring at the vats in Hrunta's laboratory. He found the one he was looking for. A pink blob of *hlorg* wiggled slowly around the bottom.

Jenkins drew a beaker of distilled water and added it to the fluid in the vat. It hissed and sputtered and sent up quantities of acrid steam. When the steam had cleared away, Jenkins peered in eagerly.

The pink thing in the bottom was turning a sickly violet. It had quit wiggling. As Jenkins watched, the violet color changed to mud grey, then to black. He prodded it with a stirring rod. There was no response.

With a whoop Jenkins buzzed Bowman and Stone. "We've got it!" he shouted to them when they appeared. "Look! Look at it!"

Bowman poked and probed and broke into a wide grin. The piece of *hlorg* was truly and sincerely dead. "It inactivates the enzyme system, and renders the base protoplasm vulnerable to anything that nor-

mally attacks it. What are we waiting for?"

They began tearing the laboratory apart, searching for the right bottles. The supply was discouragingly small, but there was some in stock. The three of them raced down the corridor for the hold where the *hlorg* was.

It took them three hours of angry work to exhaust the supply. They whittled chunks off the *hlorg*, tossed them in pans of the deadly fluid. With each slice they stopped momentarily to watch it turn violet, then black, as it died. The *hlorg*, dwindling in size, sensed the attack and slapped frantically at their ankles, sending out angry plumes of wet jelly, but they ducked and dodged and whittled some more. The *hlorg* quivered and gurgled and wept pinkish goo all over the floor, but it grew smaller and weaker with every whack.

"Hrunta must have spotted it and come down here alone," Jenkins panted between slices. "Maybe he slipped, lost his footing, I don't know—"

They continued to work until the supply was exhausted. They had reduced the *hlorg* to a quarter its previous size. "Check the other labs, see if they have some more," said Stone.

"I already have," Bowman said. "They don't. This is it."

"But we haven't got it all killed. There's still—" He pointed to the thing quailing in the corner.

"I know. We're licked, that's all. There isn't any more of the stuff on the ship."

They stopped and looked at each

other suddenly. Then Jenkins said: "Oh, yes there is."

There was silence. Bowman looked at Stone, and Stone looked at Bowman. They both looked at Jenkins. "Oh, no. Sorry. I decline." Stone shook his head slowly.

"But we have to! There's no other way. If the enzyme system is inactivated, it's just protoplasm—there's no physiological or biochemical reason—"

"You know what you can do with your physiology and biochemistry," Bowman said succinctly. "You can also count me out." He left them and the hatchway clanged after him.

"Wally?"

"Yeah."

"It'll be months before we get back to Hospital Earth. We know how we can hold it in check until we get there."

"Yeah."

"Well?"

Green Doctor Wally Stone sighed. "Greater love hath no man," he said wearily. "We'd better go tell Neelsen, I guess."

BLACK DOCTOR Turvold Neelsen's answer was a flat, unequivocal no. "It's monstrous and preposterous. I won't stand for it. Nobody will stand for it."

"But you have the proof in your own hands," Jenkins said. "You saw the specimen that the Green Doctor brought you."

Neelsen hunched back angrily. "I saw it."

"And your impression of it? As a pathologist?"

"I fail to see how my impression applies one way or the other—"

"Doctor, sometimes we have to face facts. Remember?"

"All right." Neelsen seemed to curl up into himself still further. "The specimen was stomach."

"Human stomach?"

"Human stomach."

"But the only human on this ship that doesn't have a stomach is Hrunta," said Jenkins.

"So the *hlog* ate him."

"Most of him. Not quite all. It threw out the one part of him it couldn't eat. The part containing a substance that inactivated its enzyme system. Dilute hydrochloric acid, to be specific. We used the entire ship's supply, and cut the *hlog* down to three quarters size, but we need a continuous supply to keep it whittled down until we get home. And there's only one good, permanent, reliable source of dilute hydrochloric acid on board this ship—"

The Black Doctor's face was purple. "I said no," he choked. "My answer stands."

The Red Doctor sighed and turned to Green Doctor Stone. "All right, Wally," he said.

(From the files of the Medical Disciplinary Board, Hospital Earth, op. cit.)

I am certain that you can see from the foregoing that a reasonable effort was made by Green Doctor Stone and myself to put the plan in effect peaceably and with full approval of our commander. It was our conviction, however, that the emergency nature

of the circumstances required that it be done with or without his approval. Our subsequent success in containing the *hlorg* to at least reasonable and manageable proportions should bear out the wisdom of our decision.

Actually, it has not been as bad as one might think. It has been necessary to confine the crew to their quarters, and to restrain the Black Doctor forcibly, but with liberal use of Happy-O we can occasionally convince ourselves that it is rare beefsteak, and the Green Doctor, our pro-tem cook has concocted several very tasty sauces, such as mushroom, onion, etc. We reduce the *hlorg* to half its size each day, and if thoroughly heated the chunks lie still on the plate for quite some time.

No physical ill effects have been

noted, and the period of quarantine is recommended solely to allow the men an adequate period for psychological recovery.

I have only one further recommendation: that the work team from the Grey Service be recalled at once from their assignment on Mauki IV. The problem is decidedly not psychiatric, and it would be one of the tragedies of the ages if our excellent psychiatric service were to succeed in persuading the Maukivi out of their 'delusion'.

After all, Hospital Earth cannot afford to jeopardize a Contract—
(Signed) Samuel B. Jenkins,

Physician Grade VI

Red Service

GPP Ship *Lancet*

(Attached GSS *Mercy*
pro tem) **END**

A New Theme—One Never Before Explored in Science Fiction

AN EXCITING new novelette in which Frank Riley again turns to the legal field as a background. You remember *The Cyber and Justice Holmes*—but this time Mr. Riley's theme is a startlingly new one, one which has *never before* been explored in science fiction. The title is *A Question of Identity*, and it poses a question of human identity, in all its legal, emotional and social aspects, that has no precedent. The editors of IF are proud to present *A Question of Identity*, confident that you will find it the most fascinating, unusual and thought-provoking science fiction stories of 1958. It will be published in the April issue. Don't miss it. Ask your news dealer to reserve your copy.

History was repeating itself; there were moats and nobles in Pennsylvania and vassals in Manhattan and the barbarian hordes were overrunning the land.

IT WAS JUST as he saw The Barbarian's squat black tankette lurch hurriedly into a nest of boulders that young Giulion Geoffrey realized he had been betrayed. With the muzzle of his own cannon still hot from the shell that had jammed The Barbarian's turret, he had yanked the starboard track lever to wheel into position for the finishing shot. All around him, the remnants of The Barbarian's invading army were being cut to flaming ribbons by the armored vehicles of the Seaboard League. The night was shot through by billows of cannon fire, and the din of laboring engines, guns, and rent metal was a cacophonic climax to the Seaboard League's first decisive victory over the inland invaders. Young Geoffrey could justifiably feel that he would cap that climax by personally accounting for the greatest of the inland barbarians; The Barbarian general himself. He trained his sights on the scarlet bearpaw painted on the skewed turret's flank, and laid his hand on the firing lever.

Out of the corner of his eye, he caught a glimpse of another tankette rushing up on his port side. He glanced at it, saw its graceful handicrafting, and knew it for one of the League's own. He could even see the insignie; the mailed heel trampling a stand of wheat; Harolde Dugald, of the neighboring fief. Geoffrey was on coldly polite terms with Dugald—he had no use for the other man's way of treating his serfs—and now he felt a prickle of

The Barbarians

BY JOHN SENTRY



Illustrated by Ed Emsh

indignant rage at this attempt to usurp a share of his glory. He saw Dugald's turret begin to traverse, and hastily tried to get the finishing shot into The Barbarian's tankette before the other Leaguesman could fire. But Dugald was not aiming for The Barbarian. First he had to eliminate Geoffrey from the scene entirely. When he fired, at almost point-blank range, the world seemed to explode in Giulion's eyes.

Somehow, no whistling shard of metal actually hit him. But the tankette, sturdy as it was, could not hope to protect him entirely. He was thrown viciously into the air, his ribs first smashing into the side of the hatch, and then he was thrown clear, onto the rocky ground of the foothills; agonized, stunned to semi-consciousness, he lay feebly beating at his smoldering tunic while Dugald spun viciously by him, almost crushing him under one tread. He saw Dugald's tankette plunge into the rocks after The Barbarian, and then, suddenly, the battle was beyond him. Dugald, The Barbarian; all the thundering might that had clashed here on the eastern seaboard of what had, long ago, been The United States of America—all of this had suddenly, as battles will, whirled off in a new direction and left Giulion Geoffrey to lie hurt and unconscious in the night.

He awoke to the trickle of cold water between his teeth. His lips bit into the threaded metal of a canteen top, and a huge arm supported his shoulders. Broad shoul-

ders and a massive head loomed over him against the stars. A rumbling, gentle voice said: "All right, lad, now swallow some before it's all wasted."

He peered around him in the night. It was as still as the bottom of a grave. Nothing moved. He drew a ragged breath that ended in a sharp gasp, and the rumbling voice said: "Ribs?"

He nodded and managed a strangled "Yes."

"Shouldn't wonder," the stranger grunted. "I saw you pop out of your tank like a cork coming out of a wine bottle. That was a fair shot he hit you. You're lucky." A broad hand pressed him down as the memory of Dugald's treachery started him struggling to his feet. "Hold still, lad. We'll give you a chance to catch your breath and wrap some bandages around you. You'll live to give him his due, but not tonight. You'll have to wait for another day."

There was something in the stranger's voice that Geoffrey recognized for the quality that made men obey other men. It was competence, self-assurance, and, even more, the calm expression of good sense. Tonight, Geoffrey needed someone with that quality. He sank back, grateful for the stranger's help. "I'm Giulion Geoffrey of Geoffrion," he said, "and indebted to you. Who are you, stranger?"

The darkness rumbled to a deep, rueful laugh. "In these parts, lad, I'm not called by my proper name. I'm Hodd Savage—the Barbarian. And that was a fair knock *you* gave *me*."

Young Geoffrey's silence lasted for a long while. Then he said in a flat, distant voice: "Why did you give me water, if you're going to kill me anyway?"

The Barbarian laughed again, this time in pure amusement. "Because I'm not going to kill you, obviously. You're too good a cannon-*eer* to be despatched by a belt knife. No—no, lad, I'm not planning to kill anyone for some time. All I want right now is to get out of here and get home. I've got another army to raise, to make up for this pasting you Leaguesmen have just given me."

"Next time, you won't be so lucky," Geoffrey muttered. "We'll see your hide flapping in the rain, if you're ever foolish enough to raid our lands again."

The Barbarian slapped his thigh. "By God," he chuckled, "I knew it wasn't some ordinary veal-fed princeling that outmaneuvered *me*!" He shook his head. "That other pup had better watch out for you, if you ever cross his path again. I lost him in the rocks with ease to spare. Bad luck your shot smashed my fuel tanks, or I'd be halfway home by now." The rolling voice grew low and bitter. "No sense waiting to pick up my men. Not enough of 'em left to make a corporal's guard."

"What do you mean, if I ever cross Dugald's path again? I'll have him called out ot trial by combat the day I can ride a tankette once more."

"I wouldn't be too sure, lad," The Barbarian said gently. "What does that look like, over there?"

Geoffrey turned his head to follow the shadowy pointing arm, and saw a flicker of light in the distance. He recognized it for what it was; a huge campfire, with the Leaguesmen's tankettes drawn up around it. "They're dividing the spoils—what prisoners there are, to work the mills; whatever of your equipment is still usable; your baggage train. And so forth. What of it?"

"Ah, yes, my baggage train," The Barbarian muttered. "Well, we'll come back to that. What else do you suppose they're dividing?"

Geoffrey frowned. "Why—nothing else. Wait!" He sat up sharply, ignoring his ribs. "The fiefs of the dead nobles."

"Exactly. Your ramshackle little League held together long enough to whip us for the first time, but now the princelings are dividing up and returning to their separate holdings. Once there, they'll go back to peering covetously at each other's lands, and maybe raid amongst themselves a little, until I come back again. And you're as poor as a churchmouse at this moment, lad—no fief, no lands, no title—unless there's an heir?"

Geoffrey shook his head distractedly. "No. I've not wed. It's as you say."

"And just try to get your property back. No—no, it won't be so easy to return. Unless you'd care to be a serf on your own former holdings?"

"Dugald would have me killed," Geoffrey said bitterly.

"So there you are, lad. The only advantage you have is that Dugald thinks you're dead already—you

can be sure of that, or it would have been an assassin, and not me, that woke you. That's something, at least. It's a beginning, but you'll have to lay your plans carefully, and take your time. I certainly wouldn't plan on doing anything until your body's healed and your brain's had time to work."

Young Geoffrey blinked back the tears of rage. The thought of losing the town and lands his father had left him was almost more than his hot blood could stand. The memory of the great old Keep that dominated the town, with its tapestried halls and torchlit chambers, was suddenly very precious to him. He felt a sharp pang at the thought that he must sleep in a field tonight, like some skulking outlaw, while Dugald quite possibly got himself drunk on Geoffrion wine and snored his headache away on the thick furs of Geoffrey's bed.

But The Barbarian was right. Time was needed—and this meant that, to a certain extent at least, his lot and Savage's were thrown in together. The thought came to Geoffrey that he might have chosen a worse partner.

"Now, lad," The Barbarian said, "as long as you're not doing anything else, you might as well help me with my problem."

The realization of just exactly who this man was came sharply back to young Geoffrey. "I won't help you escape to your own lands, if that's what you mean," he said quickly.

"I'll take good care of that myself, when the time comes," the man answered drily. "Right now,

I've got something else in mind. They're dividing my baggage train, as you said. Now, I don't mind that, seeing as most of it belonged to them in the first place. I don't mind it for this year, that is. But there's something else one of you cockerels will be wanting to take home with him, and I've a mind not to let him. There's a perfectly good woman in my personal trailer, and I'm going to get her. But if we're going to do that and get clear of this country by morning, we'd better get to it."

Like every other young man of his time and place, Geoffrey had a clear-cut sense of duty regarding the safety and well-being of ladies. He had an entirely different set of attitudes toward women who were not ladies. He had not the slightest idea of which to apply to this case.

What sort of woman would The Barbarian take to battle with him? What sort of women would the inland barbarians have generally? He had very little knowledge to go on. The inlanders had been appearing from over the westward mountains for generations, looting and pillaging almost at will, sometimes staying through a winter but usually disappearing in the early Fall, carrying their spoils back to their mysterious homelands on the great Mississippi plain. The seaboard civilization had somehow kept from going to its knees, in spite of them—in this last generation, even though the barbarians had The Barbarian to lead them, the Seaboard League had managed to cobble itself together—but no one, in all this time, had ever actually

learned, or cared, much about these vicious, compactly organized raiders. Certainly no one had learned anything beyond those facts which worked to best advantage on a battlefield.

So, young Giulion Geoffrey faced his problem. This 'perfectly good woman' of The Barbarian's—was she in fact a good woman, a lady, and therefore entitled to aid in extremity from any and all gentlemen; or was she some camp follower, entirely worthy of being considered a spoil of combat?

"Well, come on, Lad," The Barbarian rumbled impatiently at this point. "Do you want that Dugald enjoying *her* tonight along with everything else?"

And that decided Geoffrey. He pushed himself to his feet, not liking the daggers in his chest, but not liking the thought of Dugald's pleasures even more. "Let's go, then."

"Good enough, Lad," The Barbarian chuckled. "Now let's see how quietly we can get across to the edge of that fire."

They set out—none too quietly, with The Barbarian's heavy bulk lurching against Geoffrey's lean shoulder on occasion, and both of them uncertain of their footing in the darkness. But they made it across without being noticed—just two more battle-sore figures in a field where many such might be expected—and that was what counted.

The noise and confusion attendant on the dividing of the spoils was an added help; they reached the fringes of the campfire easily.

IT WAS VERY interesting, the way history had doubled back on itself, like a worm re-growing part of its body but re-growing it in the wrong place. At one end of the kink—of the fresh, pink scar—was a purulent hell of fire and smoke that no one might have expected to live through. Yet, people had, as they have a habit of doing. And at the other end of the kink in time—Giulion Geoffrey's end, Harolde Dugald's time, The Barbarian's day—there were keeps and moats in Erie, Pennsylvania, vassals in New Brunswick, and a great stinking warren of low, half-timbered houses on the island of Manhattan. If it had taken a few centuries longer to recover from the cauterizing sun bombs, these things might still have been. But they might have had different names, and human history might have been considered to begin only a few hundred years before. Even this had not happened. The link with the past remained. There was a narrow, cobble path on Manhattan, with sewage oozing down the ditch in its center, which was still Fifth Avenue. It ran roughly along the same directions as old Broadway, not because there was no one who could read the yellowed old maps but because surveying was in its second childhood. There was a barge running between two ropes stretched across the Hudson, and this was The George Washington Bridge ferry. So, it was only a kink in history, not a break.

But Rome was not re-built in a day. Hodd Savage—The Barbarian, the man who had come out of the

hinterlands to batter on civilization's badly mortared walls—clamped his hand on Giulion Geoffrey's arm, grunted, jerked his head toward the cluster of nobles standing beside the campfire, and muttered: "Listen."

Geoffrey listened.

The nobles were between him and the fire, and almost none of them were more than silhouettes. Here and there, a man faced toward the fire at such an angle that Geoffrey could make out the thick arch of an eyebrow, the jut of a cheek, or the crook of a nose. But it was not enough for recognition. All the nobles were dressed in battle accoutrements that had become stained or torn. Their harness had shifted, their tunics were askew, and they were bunched so closely that the outline of one man blended into the mis-shaped shadow of the next. The voices were hoarse from an afternoon's bellowing. Some were still drunk with the acid fire of exhausted nerves, and were loud. Others, drained, mumbled in the background like a chorus of the stupid. Gesticulating, mumbling, shouting, shadowed, lumped into one knot of blackness lighted by a ruddy cheekbone here, a gleaming brow there above an eyesocket as inky and blank as a bottomless pit, they were like something out of the wan and misty ages before the Earth had had time to form completely.

Two arguing voices rose out of the mass:

"Those three barbarian tankettes are *mine*, I say!"

"Yours when I lie dead!"

"They surrendered to me!"

"Because I pounded them into submission."

"Into submission, indeed! You skulked around their flanks like a lame dog, and now that I've taken them, you want your bone!"

"You were glad enough to see me there when the battle was hot. Call me a dog again and I'll spit you like a rat on a pitchfork."

No one else in the group of nobles paid the two of them any attention. No one had time to spare for any quarrel but his own, and the whole squabbling pile of them looked ready to fly apart at any moment—to draw sidearms and knives and flare into spiteful combat.

The Barbarian spat quietly. "There's your Seaboard League, Lad. There's your convocation of free men. Step out there and ask for your lands back. Care to try?"

"We've already decided that wouldn't be wise," Geoffrey said irritably. He had never cared much for these inevitable aftermaths to battle, but it made him angry to have an inland barbarian make pointed comments. "I suppose it's different when *you* win, eh?"

"Not very. But then, we're not civilized. Let's get moving, Lad."

Silently, they skirted the fire and made their way toward the parked vehicles of The Barbarian's captured supply train. The ground was rough and covered by underbrush. More than once, The Barbarian stumbled into Geoffrey, making him clench his jaw against the pain in his chest. But he saw no point in saying anything about it.

"There she is," The Barbarian

said in a husky growl. Geoffrey peered through the brush at an armored trailer whose flat sides were completely undecorated except for a scarlet bearpaw painted on the door. A lantern gleamed behind the slit windows, and The Barbarian grunted with satisfaction. "She's still in there. Fine. We'll have this done in a couple of seconds."

In spite of the incongruity, Geoffrey asked curiously: "What's a second?"

"A division of time, Lad—one sixtieth of a minute."

"Oh. What on Earth would you want to measure that accurately for?"

"For getting women out of trailers in a hurry, Lad. Now—let's look for sentries."

There were two guarding the trailer—men at arms from Dugald's holding. Geoffrey noticed—carrying shotguns and lounging in the shadows. One of them had a wineskin—Geoffrey heard the gurgle plainly—and the other was constantly turning away from the trailer to listen to the shrieks and shouting coming from among the other vehicles of the train, where other guards were not being quite as careful of their masters' new property.

"I see they've found the quartermaster's waggons," The Barbarian said drily. "Now, then, Lad—you work away toward the right, there, and I'll take the left. Here—take my knife. I won't need it." The Barbarian passed over a length of steel as big as a short-sword, but

oddly curved and sharpened down one side of the blade. "Stab if you can, but if you have to cut, that blade'll go through a man's forearm. Remember you're not holding one of those overgrown daggers of yours."

"And just why should I kill a man for you?"

"Do you think that man won't try to kill you?"

Geoffrey had no satisfactory answer to that. He moved abruptly off into the brush, holding The Barbarian's knife, and wondering just how far he was obligated for a bandaged chest and half a pint of water. But a man's duty to his rescuer was plain enough, and, besides, just what else was there to do?

The blame for it all went squarely back to Dugald, and Geoffrey did not love him for it. He slipped through the bushes until he was only a few yards from the man who had the wineskin, and waited for The Barbarian to appear at the opposite end of the trailer.

When it happened, it happened quite suddenly, as these things will. One moment the other sentry was craning his neck for another look at what was going on elsewhere. The next he was down on his knees, croaking through a compressed throat, with The Barbarian's arm under his chin and a driving knee ready to smash at the back of his neck again.

Geoffrey jumped forward, toward his own man. The man at arms had dropped his wineskin in surprise and was staring at what was happening to his comrade.

When he heard Geoffrey come out of the underbrush, the face he turned was white and oddly distended with shock, as though all the bones had drained out of it. He might have appeared fierce enough, ordinarily. But things were happening too fast for him.

Geoffrey had never killed anyone but a noble in his life. Not intentionally and at close range, in any case. The completely baffled and helpless look of this one somehow found time to remind him that this was not, after all, one of his peers—that the man was hopelessly outclassed in fair combat—or in anything else, for that matter. Geoffrey did *not* stop to weigh the probity of this idea. It was the central tenet of his education and environment. Furthermore, there was some truth in it.

He couldn't kill the man. He swept up his arm and struck the flat of The Barbarian's broad knife against the side of the guard's head, and bowled the man over with his rush. But the guard had a hard skull. He stared up with glazed but conscious eyes, and squalled: "Lord Geoffrey!" Geoffrey hit him again, and this time the guard stayed down, but the damage was done. Scrambling to his feet, Geoffrey ran over to The Barbarian, who was letting the other guard ooze to the ground.

"We'll have to hurry!" Geoffrey panted. "Before that man comes back to his senses."

The Barbarian gave him a disgusted look, but nodded. "Hurry we shall." He lurched to the trailer door and slapped it with the flat

of his hand. "Let's go, Myka."

There was a scrambling sound inside the trailer, and the light went out. The door slid open, and Geoffrey found himself staring at the most beautiful woman he had ever seen.

She was lithe almost to the point of boyishness, even though she was clearly some years older than Geoffrey. She had short hair the color of hammered copper, high cheekbones, and tawny eyes. She was wearing a tunic and short trousers, and there was an empty pistol holster strapped around her waist. Obviously, she was not a lady. But it was much too late for Geoffrey to care about that. She stopped in the doorway, shaking her head slowly at The Barbarian. "I swear, Hodd," she said in a low, laughing voice, "one of these days you *won't* come back from the dead, and I'll be surprised."

"It was close enough, this time," The Barbarian growled. He jerked his head toward Geoffrey. "That young buck over there knows how to handle his enemies. Once he learns what to do about his friends, I may have to retire."

Myka arched her burning eyebrows. "Oh? What's the story behind that, I'd like to know."

"We can always talk," Geoffrey said a little edgily. "But we can't always find an empty tankette."

"Quite right, Lad," The Barbarian said. "I saw some vehicles parked over that way."

"Those belong to the nobles. There ought to be some captured ones of yours somewhere around here."

"With plenty of guards on them. No thanks."

"That didn't trouble you earlier."

"Myka, as you may have noticed, is more than a tank. This time the prize isn't worth it. I'd rather just slip over to where I can get transportation for the choosing."

"Not with my help."

The Barbarian looked at him and grunted. He seemed oddly disappointed. "I would have bet the other way," he muttered. Then the shaggy head rose, and he circled Myka's waist with one arm. "All right, I'll do it without your help."

"Is Myka trained to drive a tankette and fight at the same time?"

"No."

"Then you'd better do it my way. You'd make a poor showing, kicking drive levers with a broken leg." Geoffrey nodded toward The Barbarian's right shin. "It's been that way since before you picked me up, hasn't it? I saw it wobble when you kneed that man at arms."

Myka looked at The Barbarian sharply, worry on her face, but the man was chuckling. "All right, Bucko, we'll do it your way."

"Fine." Geoffrey wasn't so sure it was. Suddenly he was committed not only to helping The Barbarian escape, but also to escape with him. He was faintly surprised at himself. But there was something about the man. Something worth saving, no matter what. And there was the business now of having been recognized. Once Dugald learned he was still alive, there would be a considerable amount of danger in staying in the vicinity. Of course, he

had only to stoop over the unconscious guard with The Barbarian's knife . . .

With a quick motion, he tossed the weapon back to its owner.

That one was an easy choice, Geoffrey thought. Simply stealing—or was it recapturing?—a tankette and using it to drive away with Myka and The Barbarian didn't mean he had to go all the way to the barbarian lands with them. Let the guard revive and run to Dugald with the news. All Geoffrey had to do was to remove himself a few miles, find shelter, and bide his time.

One recaptured barbarian tankette might not even be missed. And the guard might not be believed—well, that was a thin hope—but, in any case, no one had any reason to suspect The Barbarian was still alive. There'd be no general pursuit.

Well . . . maybe not. There was a man at arms choked to death, by a stronger arm than Geoffrey's, and it was The Barbarian's woman who would be missing. There might be quite a buzz about that.

Geoffrey shook his head in impatient annoyance. This kind of life demanded a great deal more thinking than he was accustomed to. All these unpredictable factors made a man's head spin.

And then again, maybe they didn't. The thing to do was to act, to do what would get him out of here now, and leave him free tomorrow to do whatever thinking tomorrow demanded. With a little practice, too, thinking would undoubtedly come more easily.

"All right," he said decisively, "let's get moving over in that direction, and see if the guards haven't gotten a little careless." He motioned to Myka and The Barbarian, and began to lead the way into the underbrush. He thrust out a hand to pull a sapling aside, and almost ran full-tilt into Harolde Dugald.

Dugald was almost exactly Geoffrey's age and size, but he had something Geoffrey lacked—a thin-lipped look of wolfish wisdom. His dark eyes were habitually slitted, and his mouth oddly off-center, always poised between a mirthless grin and a snarl. His long black hair curled under at the base of his skull, and his hands were covered with heavy gold and silver rings. There was one for each finger and thumb, and all of them were set with knobby precious stones.

His lips parted now, and his long white teeth showed plainly in the semi-darkness. "I was coming back to inspect my prizes," he said in a voice like a fine-bladed saw chuckling through soft metal. "And look what I've found." The open mouth of his heavy, handmade side pistol pointed steadily between Geoffrey's eyes. "I find my erstwhile neighbor risen from the dead, and in the company of a crippled enemy and his leman. Indeed, my day is complete."

The one thing Geoffrey was not feeling was fear. The wire-thin strand of his accumulated rage was stretched to breaking. Somewhere, far from the forefront of his mind,

he was feeling surprise and disappointment. He was perfectly aware of Dugald's weapon, and of what it would do to his head at this range. But Geoffrey was not stopping to think. And Dugald was a bit closer to him than he ought to have been.

Geoffrey's hands seemed to leap out. One tore the pistol out of Dugald's hand and knocked it spinning. The other cracked, open-palmed, against the other man's face, hard enough to split flesh and start the blood trickling down Dugald's cheek. The force of the combined blows sent Dugald staggering. He fell back, crashing into a bush, and hung against it. Stark fear shone in his eyes. He screamed: "Dugald! *Dugald!* To me! To me!"

For a second, everything went silent; nobles quarreling, guards roistering among the captures—suddenly the battlefield was still. Then the reaction to the rallying cry set off an entirely different kind of hubbub. The sound now was that of an alerted pack of dogs.

Once more, Geoffrey swept his hand across Dugald's face, feeling his own skin break over the knuckles. But there was no time for anything else. Now they had to run, and not in silence. Now everything went by the board, and the nearest safety was the best. Behind them as they tore through the brush, they could hear Dugald shouting:

"That way! The Barbarian's with him!" The Barbarian was grunting with every step. Myka was panting. Geoffrey was in the lead, his throat burning with every

breath, not knowing where he was leading them, but trying to skirt around the pack of nobles that would be running toward them in the darkness.

He crashed against plated metal. He peered at it in the absolute darkness this far from the fires and torches. "Tankette!" he said hoarsely. "Empty." They scrambled onto it, Geoffrey pulling at The Barbarian's arm. "Down, Myka—inside. Ought to be room between steering posts and motor." He pushed the woman down through the hatch, and dropped back to the ground. He ran to the crank clipped to one track housing and thrust it into place. "You—you'll have to hang onto—turret," he panted to The Barbarian. "Help me start." He wound furiously at the starting crank until he felt the flywheel spin free of the ratchet, and then engaged the driveshaft. The tankette shuddered to the sudden torque. The motor resisted, turned its shaft reluctantly, spun the magneto, ignited, stuttered, coughed, and began to roar. The headlights flickered yellowly, glowed up to brightness as the engine built up revolutions. The Barbarian, clinging to the turret with one arm, pushed the choke control back to halfway and advanced the spark. Geoffrey scrambled up the sharply pitched rear deck, clawing for handholds on the radiator tubing, and dropped into the turret seat. He took the controls, kicked at the left side track control without caring, for the moment, whether Myka was in the way or not, spun the tankette halfway

THE BARBARIANS

round, and pulled the throttle out as far as it would go. Its engine clamoring, its rigid tracks transmitting every shock and battering them, the tankette flogged forward through the brush. There was gunfire booming behind them, and there were other motors sputtering into life.

There was no one among the nobles to drive as well as Geoffrey could—certainly no one who could keep up with him at night, in country he knew. He could probably depend on that much.

He lit the carbide lamp over the panel.

Geoffrey looked at the crest worked into the metal, and laughed. He had even managed to steal Dugald's tankette.

BY MORNING, they were a good fifty miles away from where the battle had been fought. They were almost as far as the Delaware River, and the ground was broken into low hills, each a little higher than the last. Geoffrey had only been this far away from his home a few times, before his father's death, and then never in this direction. Civilization was not considered to extend this far inland. When a young man went on his travels, preparatory for the day when he inherited his father's holdings and settled down to maintain them, he went along the coast, perhaps as far as Philadelphia or Hartford.

Geoffrey had always had a lively interest in strange surroundings. He had regretted the day his journey-

ings came to an end—not that he hadn't regretted his father's passing even more. Now, as dawn came up behind them, he could not help turning his head from side to side and looking at the strangely humped land, seeing for the first time a horizon which was not flat. He found himself intrigued by the thought that he had no way of knowing what lay beyond the next hill—that he would have to travel, and keep traveling, to satisfy a perpetually renewed curiosity.

All this occupied one part of his mind. Simultaneously, he wondered how much farther they'd travel in this vehicle. The huge sixteen cylinder in-line engine was by now delivering about one-fourth of its rated fifty horsepower, with a good half of its spark plugs hopelessly fouled and the carburetor choked by the dust of yesterday's battle.

They were very low on shot and powder charges for the two-pounder turret cannon, as well. The tankette had of course never been serviced after the battle. There was one good thing—neither had their pursuers'. Looking back, Geoffrey could see no sign of them. But he could also see the plain imprint of the tankette's steel cleats stretched out behind them in a betraying line. The rigid, unsprung track left its mark on hard stone as easily as it did in soft earth. The wonder was that the tracks had not quite worn themselves out as yet, though all the rivets were badly strained and the tankette sounded like a barrel of stones tumbling downhill.

The Barbarian had spent the

night with one arm thrown over the cannon barrel and the fingers of his other hand hooked over the edge of the turret hatch. In spite of the tankette's vicious jouncing, he had not moved or changed his position. Now he raised one hand to comb the shaggy hair away from his forehead, and there were faint bloody marks on the hatch.

"How much farther until we're over the mountains?" Geoffrey asked him.

"Over the—Lad, we haven't even come to the beginning of them yet."

Geoffrey grimaced. "Then we'll never make it. Not in this vehicle."

"I didn't expect to. We'll walk until we reach the pass. I've got a support camp set up there."

"Walk? This is impossible country for people on foot. There are intransigent tribesmen all through this territory."

"How do you know?"

"How do I *know*? Why, everybody knows about them!"

The Barbarian looked at him thoughtfully, and with just the faintest trace of amusement. "Well, if *everybody* knows they're intransigent, I guess they are. I guess we'll just have to hope they don't spot us."

Geoffrey was a little nettled by The Barbarian's manner. It wasn't, after all, as if anybody claimed there were dragons or monsters or any other such oceanic thing living here. This was good, solid fact—people had actually come up here, tried to bring civilization to the tribes, and failed completely. They were, by all reports, hairy, dirty

people equipped with accurate rifles. No one had bothered to press the issue, because obviously it was hardly worth it. Geoffrey had expected to have trouble with them—but he had expected to meet it in an armored vehicle. But now that the mountains had turned out to be so far away, the situation might grow quite serious. And The Barbarian didn't seem to care very much.

"Well, now, Lad," he was saying, "if the tribesmen're that bad, maybe your friends the nobles won't dare follow us up here."

"They'll follow us," Geoffrey answered flatly. "I slapped Dugald's face."

"Oh. Oh, I didn't understand that. Code of honor—that sort of thing. All the civilized appurtenances."

"It's hardly funny."

"No, I suppose not. I don't suppose it occurred to you to kill him on the spot?"

"Kill a *noble* in hot blood?"

"Sorry. Code of honor again. Forget I mentioned it."

Geoffrey rankled under The Barbarian's barely concealed amusement. To avoid any more of this kind of thing, he pointedly turned and looked at the terrain behind them—something he ought to have done a little earlier. Three tankettes were in sight, only a few miles behind them, laboring down the slope of a hill.

And at that moment, as though rivetted iron had a dramatic sense of its own, their tankette coughed, spun lazily on one track as the crankshaft paused with a cam

squarely between positions, and burned up the last drops of oil and alcohol in its fuel tank.

Geoffrey and Myka crouched down in a brushy hollow. The Barbarian had crawled up to the lip of the depression, and was peering through a clump of weeds at the oncoming trio. "That seems to be all of them," he said with a turn of his head. "It's possible they kept their speed down and nursed themselves along to save fuel. They might even have a fuel waggon coming up behind them. That's the way I'd do it. It would mean these three are all we can expect for a few hours, anyway, but that they'll be heavily reinforced some time later."

"That will hardly matter," Geoffrey muttered. Myka had found Dugald's personal rifle inside the tankette. Geoffrey was rolling cartridges quickly and expertly, using torn up charges from the turret cannon. He had made the choice between a round or two for the now immobile heavy weapon and a plentiful supply for the rifle, and would have been greatly surprised at anyone's choosing differently. The Barbarian had not even questioned it, and Myka was skillfully casting bullets with the help of the hissing alcohol stove and the bullet mold included in the rifle kit. There was plenty of finely ground priming powder, and even though Geoffrey was neither weighing the charges of cannon powder nor measuring the diameter of the cartridges he was rolling, no young noble of any pretensions whatso-

ever could not have done the same.

The rub lay in the fact that none of this was liable to do them much good. If they were to flee through the woods, there would certainly be time for only a shot or two when the tribesmen found them. If the rifle was to be used against the three nobles, then it was necessary, in all decency, to wait until the nobles had stopped, climbed out of their tankettes, equipped themselves equally, and a mutual ground of battle had been agreed upon. In that case, three against one would make short work of it.

The better chance lay with the woods and the tribesmen. It was the better chance, but Geoffrey did not relish it. He scowled as he dropped a primer charge down the rifle's barrel, followed it with a cartridge, took a cooled bullet from Myka, and tamped it down with the ramrod until it was firmly gripped by the collar on the cartridge. He took a square of clean flannel from its compartment in the butt and carefully wiped the lenses of the telescopic sight.

"Can I stop now?" Myka asked.

Geoffrey looked at her sharply. It had never occurred to him that the woman might simply be humoring him, and yet that was the tone her voice had taken. Truth to tell, he had simply handed her the stove, pig lead, and mold, and told her to go to work.

He looked at her now, remembering that he'd been hurried and possibly brusque. It ought not to matter—though it did—since she was hardly a lady entitled to courtesy. She hardly looked like any-

thing, after hours crouched inside the tankette.

Her copper hair was smeared with grease, disarranged, and even singed where she had presumably leaned against a hot fitting. Her clothes were indescribably dirty and limp with perspiration. She was quite pale, and seemed to be fighting nausea—hardly surprising, with the exhaust fumes that must have been present in the compartment.

Nevertheless, her hair glinted where the sun struck it, and her liveness was only accented by the wrinkled clothing. Over-accented, Geoffrey thought to himself as he looked at the length of limb revealed by her short trousers.

He flushed. "Of course. Thank you." He looked at the pile of finished bullets. There were enough of them to stand off an army, provided only the army did not shift about behind rocks and trees as the tribesmen did, or was not equally armed, as the nobles would be. Yet, a man had to try to the end. "You don't expect this to do much good," he said to the woman.

Myka grinned at him. "Do you?"

"No, frankly. But why did you help me?"

"To keep you busy."

"I see." He didn't. He scooped the bullets up, put them in one pocket, and dropped the cartridges in another. He stood up.

"There wasn't any point in letting you get nervous," Myka explained. "You can be quite a deadly boy in action, if what I've seen and heard about you is any indication. I didn't want you killing any of our friends." She was smiling at

him without any malice whatsoever; rather, with a definite degree of fondness. Geoffrey did not even feel resentful at this business of being casually managed, as though he were liable to do something foolish.

But he scrambled up to a place beside The Barbarian in a burst of tense movement, and looked out toward the approaching tankettes. What Myka had just said to him, and the cryptic smile on the Barbarian's face, and a thought of Geoffrey's own, had all fitted themselves together in his mind.

There was no reason, really, to believe that barbarians would be hostile to barbarians, and certainly the inland raiders could not have returned year after year without *some* means of handling the mountain tribes. Friendship, or at least an alliance, would be the easiest way.

And out on the slope of the nearest hill, bearded men in homespun clothing were rolling boulders down on the advancing tankettes.

The slope of the hill was quite steep, and the boulders were massive. They tumbled and bounded with a speed that must have seemed terrifying from below. Tearing great chunks out of the earth, they rumbled down on the tankettes while the tribesmen yelled with bloodcurdling ferocity and fired on the tankettes with impossible rapidity. With respectable marksmanship, too. The nobles were swerving their vehicles frantically from side to side, trying to avoid the boulders, but their ability to do so was being destroyed by bullets

that ricocheted viciously off the canted forepeak plating. All three of them were blundering about like cattle attacked by stinging insects. Only the lead tankette was still under anything like intelligent control. It lurched away from three boulders in succession, swinging on its treads and continuing to churn its way up the hillside.

Geoffrey saw the other two tankettes struck almost simultaneously. One took a boulder squarely between its tracks, and stopped in a shower of rock fragments. The track cleats bit futilely at the ground. The vehicle stalled, the boulder jammed against it. The impact did not seem to have been particularly severe; but the entire body of the tankette had been buckled and accordioned. Possibly only the boulder's own bulk between the tracks had kept them from coming together like the knees of a gored ox. It was impossible to tell where, in that crushed bulk, the turret and its occupant might be.

The other tankette took its boulder squarely in the flank. It began to roll over immediately, hurtling back down the hill, its driver half in and half out of its turret at the beginning of the first roll. Tankette and boulder came to rest together at the bottom of the hill, the stone nosing up against the metal.

Geoffrey looked at the scene with cold fury. "That's no fitting way for a noble to die!"

The Barbarian, who was sprawled out and watching calmly, nodded his head. "Probably

not," he said dispassionately. "But that other man's giving a good account of himself."

The remaining tankette was almost in among the tribesmen. It had passed the point where a rolling boulder's momentum would be great enough to do much damage. As Geoffrey watched, the man in the turret yanked his lanyard, and a solid shot boomed through the straggled line of bearded men. If it had been grape or canister, it might have done a good deal of damage. But the cannon had been loaded with Geoffrey's tankette in mind, and the tribesmen only jeered. One of them dashed forward, under the cannon's smoking muzzle, and jammed a wedge-shaped stone between the left side track and the massive forward track roller. The track jammed, broke, and whipped back in whistling fragments. The tankette slewed around while the unharmed tribesman danced out of the way. The noble in the turret could only watch helplessly. Apparently he had no sidearm. Geoffrey peered at him as the tribesmen swarmed over the tankette and dragged him out of the turret. It was Dugald, and Geoffrey's arm still tingled from the slap that had knocked the pistol irretrievably into the night-shadowed brush at the battlefield.

"What are they going to do to him?" he asked The Barbarian.

"Make him meet the test of fitness, I suppose."

"Fitness?"

Geoffrey did not get the answer to his question immediately. The woods all around him were stir-

ring, and bearded men in homespun, carrying fantastic rifles, were casually walking toward him. The Barbarian pushed himself up to his feet without any show of surprise.

"Howdy," he said. "Figured you were right around."

One of the tribesmen—a gaunt, incredibly tall man with a grizzled beard—nodded. "I seen you makin' signs while you was hangin' off that tank, before. Got a mark?"

The Barbarian extended his right arm and turned his wrist over. A faint double scar, crossed at right angles, showed in the skin.

The tribesman peered at it and grunted. "Old one."

"I got it twenty years ago, when I first came through here," The Barbarian answered.

"Double, too. Ain't many of those."

"My name's Hodd Savage."

"Oh," the tribesman said. His entire manner changed. Without becoming servile, it was respectful. He extended his hand. "Sime Weatherby." He and The Barbarian clasped hands. "That your woman down there?" the tribesman asked, nodding toward Myka.

"That's right."

"Good enough." For the first time, Weatherby looked directly at Geoffrey. "What about him?"

The Barbarian shook his head. "No mark."

The tribesman nodded. "I figured, from the way he was actin'." He seemed to make no particular signal—perhaps none was needed—but Geoffrey's arms were suddenly taken from behind, and his wrists were tied.

"We'll see if he can get him a mark today," Weatherby said. He looked to his left, where other men were just pushing Dugald into the ring they had formed around the group. "Seein' as there's two of them, one of 'em ought to make it."

Geoffrey and Dugald stared expressionlessly at each other. The Barbarian kept his eyes on Geoffrey's face. "That's right," he said. "Can't have two men fight to the death without one of them coming out alive, usually."

THE TRIBESMEN lived in wooden cabins tucked away among trees and hidden in narrow little valleys. Geoffrey was surprised to see windmills, and wire fencing for the cattle pastures that adjoined their homes. He was even more interested in their rifles, which, the tribesmen told him, were repeaters. He was puzzled by the absence of a cylinder, such as could be found on the generally unreliable revolvers one saw occasionally.

The tribesmen were treating both him and Dugald with a complete absence of the savagery he expected. They were being perfectly matter-of-fact. If his hands had not been tied, Geoffrey might not have been a prisoner at all. This puzzled him as well. A prisoner, after all, could not expect to be treated very well. True, he and Dugald were nobles, but this could not possibly mean anything to persons as uncivilized as mountain tribesmen.

Yet somehow, the only thing that was done was that all of them; the tribesmen, The Barbarian, Myka, Dugald and he—made their way to Weatherby's home. A number of the tribesmen continued on their way from there, going to their own homes to bring their families to watch the test. The remainder stayed behind to post guard. Dugald was put in one room, and Geoffrey in another. The Barbarian and Myka went off somewhere with Weatherby—presumably to have breakfast. Geoffrey could smell food cooking, somewhere toward the back of the house. The smell sat intolerably on his empty stomach.

He sat for perhaps a half hour in the room, which was almost bare of furniture. There was a straight-backed chair, in which he sat, a narrow bed, and a bureau. Even though his hands were still tied behind his back, he did his best to search the room for something to help him—though he had no idea of what he would do next after he managed to escape from the room itself.

The problem did not arise, because the room had been stripped of anything with a sharp edge on which to cut his lashings, and of anything else he might put to use. These people had obviously held prisoners here before. He sat back down in his chair, and stared at the wall.

Eventually, someone opened the door. Geoffrey looked over, and saw that it was The Barbarian. He looked at the inlander coldly, but The Barbarian did not seem

to notice. He sat down on the edge of the bed.

"On top of everything else," he began without preamble, "I've just finished a hearty breakfast. That ought to really make you mad at me."

"I'm not concerned with you, or your meals," Geoffrey pointed out.

The Barbarian's eyes twinkled. "It doesn't bother you, my getting your help and then not protecting you from these intransigent tribesmen?"

"Hardly. I'd be a fool to expect it."

"Would you, now? Look, Bucko—these people live a hard way of life. Living on a mountain is a good way not to live comfortably. But it's a good way of living your own way, if you can stand the gaff. These people can. Every one of them. They've got their marks to prove it. Every last one of them has fought it out face to face with another man, and proved his fitness to take up space in this territory. See—it's a social code. And they'll extend it to cover any stranger who doesn't get killed on his way here. If you can get your mark, you're welcome here for the rest of your life. They keep their clan stock fresh and vigorous that way. And it all has the virtue of being a uniform, just, rigid code that covers every man in the group. These barbarian cultures aren't ever happy without a good code to their name, you know."

"Yours seems to lack one."

The Barbarian chuckled. "Oh, no. We've got one, all right, or you'd never have had me to worry

you. Nothing we like better than a good, talented enemy. You know, these people here in the mountains used to be our favorite enemies. But so many of us wound up getting our marks, it just got to be futile. Once you're in, you know, you're a full-fledged clan member. That sort of divided our loyalties. The problem just seemed to solve itself, though. We understand them, they understand us, we trade back and forth . . . hell, it's all one family."

Geoffrey frowned. "You mean—they got those rifles from you?"

"Sure. We're full of ingenuity—for barbarians, that is. Not in the same class with you seaboard nobles, of course, but we poke along." The Barbarian stood up, and his expression turned serious. "Look, Son—you remember that knife of mine you borrowed for a while? I'll have to lend it to you again, in about twenty minutes. Your friend Dugald's going to have one just like it, and your left arms are going to be tied together at the wrists. I hope you remember what I happened to tell you about how to use it, because under the rules of the code, I'm not allowed to instruct you."

And Geoffrey was left alone.

There was a hard-packed area of dirt in front of Weatherby's home, and now its edges were crowded with tribesmen, many of whom had brought their women and children. Weatherby, together with a spare, capable-looking woman, and with The Barbarian and

(Continued on page 113)

BY ARTHUR C. CLARKE

*No phenomenon? Then was
it a massive life that sped—*

OUT FROM THE SUN

IF YOU HAVE only lived on Earth, you have never seen the Sun. Of course, we could not look at it directly, but only through dense filters that cut its rays down to endurable brilliance. It hung there forever above the low, jagged hills to the west of the Observatory, neither rising nor setting, yet moving round a small circle in the sky

Illustrated by Virgil Finlay

during the 88-day year of our little world. For it is not quite true to say that Mercury keeps the same face always turned towards the Sun; it wobbles slightly on its axis, and there is a narrow twilight belt which knows such terrestrial commonplaces as dawn and sunset.

We were on the edge of Mercury's twilight zone, so that we could take advantage of the cool shadows yet could keep the Sun under continuous surveillance as it hovered there above the hills. It was a full-time job for fifty astronomers and other assorted scientists; when we've kept it up for a hundred years or so, we may know something about the small star which brought life to Earth.

There wasn't a single band of solar radiation that someone at the Observatory had not made a life's study and was watching like a hawk. From the far X-rays to the longest of radio waves, we had set our traps and snares; as soon as the Sun thought of something new, we were ready for it. So we imagined . . .

The Sun's flaming heart beats in a slow, 11-year rhythm, and we were near the peak of the cycle. Two of the greatest spots ever recorded—each of them large enough to swallow a hundred Earths—had drifted across the disc like great black funnels piercing deeply into the turbulent outer layers of the Sun. They were black, of course, only by contrast with the brilliance all around them; even their dark, cool cores were hotter and brighter than an electric arc. We had just watched the second of them dis-

appear round the edge of the disc, wondering if it would survive to reappear two weeks later, when something blew up on the Equator.

It was not too spectacular at first, partly because it was almost exactly beneath us—at the precise center of the Sun's disc—and so was merged into all the activity around it. If it had been near the edge of the Sun, and thus projected against the background of space, it would have been truly awe-inspiring.

Imagine the simultaneous explosion of a million H-bombs. You can't? Nor can anyone else—but that was the sort of thing we were watching climb up toward us at hundreds of miles a second, straight out of the Sun's spinning equator. At first it formed a narrow jet, but it was quickly frayed round the edges by the magnetic and gravitational forces that were fighting against it. The central core kept right on, and it was soon obvious that it had escaped from the Sun completely and was headed out into space—with us as its first target.

Though this had happened half a dozen times before, it was always exciting. It meant that we could capture some of the very substance of the Sun as it went hurtling past in a great cloud of electrified gas. There was no danger; by the time it reached us it would be far too tenuous to do any damage, and indeed it would take sensitive instruments to detect it at all.

One of those instruments was the Observatory's radar, which was in continual use to map the invisible ionized layers that surround the

Sun for millions of miles. This was my department; as soon as there was any hope of picking up the oncoming cloud against the solar background, I aimed my giant radio mirror toward it.

It came in sharp and clear on the long-range screen—a vast, luminous island still moving outward from the Sun at hundreds of miles a second. At this distance it was impossible to see its finer details, for my radar waves were taking minutes to make the round trip and to bring me back the information they were presenting on the screen. Even at its speed of not far short of a million miles an hour, it would be almost two days before the escaping prominence reached the orbit of Mercury and swept past us towards the outer planets. But neither Venus nor Earth would record its passing, for they were nowhere near its line of flight.

The hours drifted by; the Sun had settled down after the immense convulsion, that had shot so many millions of tons of its substance into space, never to return. The aftermath of that eruption was now a slowly twisting and turning cloud a hundred times the size of Earth, and soon it would be close enough for the short-range radar to reveal its finer structure.

Despite all the years I have been in the business, it still gives me a thrill to watch that line of light paint its picture on the screen as it spins in synchronism with the narrow beam of radio waves from the transmitter. I sometimes think of myself as a blind man, ex-

ploring the space around him with a stick that may be a hundred million miles in length. For man is truly blind to the things I study; these great clouds of ionized gas moving far out from the Sun are completely invisible to the eye and even to the most sensitive of photographic plates. They are ghosts that briefly haunt the Solar System during the few hours of their existence; if they did not reflect our radar waves, or disturb our magnetometers, we should never know that they were there.

The picture on the screen looked not unlike a photograph of a spiral nebula, for as the cloud slowly rotated it trailed ragged arms of gas for ten thousand miles around it. Or it might have been a terrestrial hurricane that I was watching from above, as it spun through the atmosphere of Earth. Its internal structure was extremely complicated, and was changing minute by minute beneath the action of forces which we have never fully understood. Rivers of fire were flowing in curious paths under what could only be the influence of electric fields; but why were they appearing from nowhere and disappearing again as if matter was being created and destroyed? And what were those gleaming nodules, larger than the Moon, that were being swept along like boulders before a flood?

Now it was less than a million miles away; it would be upon us in little more than an hour. The automatic cameras were recording every complete sweep of the radar scan, storing up evidence which

was to keep us arguing for years. The magnetic disturbance riding ahead of the cloud had already reached us; indeed, there was hardly an instrument in the Observatory that was not reacting in some way to the onrushing apparition.

I switched to the short-range scanner, and the image of the cloud expanded so enormously that only its central portion was on the screen. At the same time I began to change frequency, tuning across the spectrum to differentiate between the various levels. The shorter the wavelength, the further you can penetrate into a layer of ionized gas; by this technique I hoped to get a kind of X-ray picture of the cloud's interior.

It seemed to change before my eyes as I sliced down through the tenuous outer envelope with its trailing arms, and approached the denser core. "Denser", of course, was a purely relative word; by terrestrial standards even its most closely-packed regions were still a fairly good vacuum. I had almost reached the limit of my frequency band, and could shorten the wavelength no further, when I noticed the curious, tight little echo not far from the centre of the screen.

IT WAS OVAL, and much more sharp-edged than the knots of gas we had watched adrift in the cloud's fiery streams. Even in that first glimpse, I knew that here was something very strange, and outside all previous records of solar phenomena. I watched it for a dozen scans of the radar beam, then

called my assistant away from the radio-spectrograph with which he was analysing the velocities of the swirling gas as it spun toward us.

"Look, Don," I asked him, "have you ever seen anything like that?"

"No," he answered after a careful examination. "What holds it together? It hasn't changed its shape for the last two minutes."

"That's what puzzles me. Whatever it is, it should have started to break up by now with all that disturbance going on around it. But it seems as stable as ever."

"How big would you say it is?"

I switched on the calibration grid and took a quick reading.

"It's about five hundred miles long, and half that in width."

"Is this the largest picture you can get?"

"I'm afraid so. We'll have to wait until it's closer before we can see what makes it tick."

Don gave a nervous little laugh.

"This is crazy," he said, "but do you know something? I feel as if I'm looking at an amoeba under a microscope."

I did not answer; for with what I can only describe as a sensation of intellectual vertigo, exactly the same thought had entered my mind.

We forgot about the rest of the cloud, but luckily the automatic cameras kept up their work and no important observations were lost. From now on we had eyes only for that sharp-edged lens of gas that was growing minute by minute as it raced toward us. When it was no further away than is the Moon from Earth, it began to show the first signs of its internal

structure, by revealing a curious mottled appearance that was never quite the same on two successive sweeps of the scanner.

By now, half the Observatory staff had joined us in the radar room, yet there was complete silence as the oncoming enigma grew swiftly across the screen. It was coming straight toward us; in a few minutes it would hit Mercury somewhere in the center of the day-light side, and that would be the end of it—whatever it was. From the moment we obtained our first really detailed view until the screen became blank again could not have been more than five minutes; for every one of us, that five minutes will haunt us all our lives.

We were looking at what seemed to be a translucent oval, its interior laced with a network of almost invisible lines. Where the lines crossed there appeared to be tiny, pulsing nodes of light; we could never be quite sure of their existence because the radar took almost a minute to paint the complete picture on the screen—and between each sweep the object moved several thousand miles. There was no doubt, however, that the network itself existed; the cameras settled any arguments about that.

So strong was the impression that we were looking at a solid object, I took a few moments off from the radar screen and hastily focused one of the optical telescopes on to the sky. Of course, there was nothing to be seen—no sign of anything silhouetted against the

OUT FROM THE SUN

Sun's pock-marked disc. This was a case where vision failed completely and only the electrical senses of the radar were of any use. The thing that was coming toward us out of the Sun was as transparent as air—and far more tenuous.

As those last moments ebbed away, I am quite sure that every one of us had reached the same conclusion—and was waiting for someone else to say it first. What we were seeing was impossible, yet the evidence was there before our eyes. We were looking at life, where no life could exist . . .

The eruption had hurled the thing out of its normal environment, deep down in the flaming atmosphere of the Sun. It was a miracle that it had survived its journey through space; already it must be dying, as the forces which controlled its huge, invisible body lost their hold over the electrified gas which was its only substance.

Today, now that I have run through those films a hundred times, the idea no longer seems so strange to me. For what is life but organized energy? Does it matter *what* form that energy takes—whether it is chemical, as we know it on Earth, or purely electrical, as it seemed to be here? Only the pattern is important; the substance itself is of no significance. But at the time I did not think of this; I was conscious only of a vast and overwhelming wonder as I watched this creature of the Sun live out the final moments of its existence.

Was it intelligent? Could it un-

(Continued on page 112)

SECURITY RISK

BY ED M. CLINTON, JR.

AT MOMENTS like this, General David Walker always thought fleetingly of the good old days when he had hated the army. As usual, he smashed the thought out of his mind with a distinct sense of remorse.

He looked up again at the seamed face of the Chief of Staff, General Marcus Meriwether. "This could be serious," he said slowly, with a sick sense of the statement's inadequacy. An old tic suddenly returned, tugging at the left corner of his mouth.

The deadly, unsmiling expression on Meriwether's face did not change as he slid more tightly into his chair. "You know as well as I that it means the Interplanetary Confederation is ready to go to war with us."

Walker stared at the typed statement on his desk. It was a decoded intelligence message from United Terra's prime agent in the Interplanetary Confederation, and it was very brief: the Confederation had developed a long-range neural weapon effectively cancelling out every armament development achieved by United Terra in fifteen years of a cold war that of late had become bitter cold. The all-but-autonomous colonies of Mars and Venus, united now for twenty years in an economic league, had been itching for independence for a quarter of a century. The itch had developed into a mighty burning.

"You are fully aware," Meriwether continued, his face still set, "of our feeling that the Confederation has been eager to take on Terra. They've clearly been waiting

Illustrated by Ed Emsch



*It was a touchable
touching an untouchable.
Both scientist and general
were doing their own
version of right . . .*

for some positive advantage to offset our pure strength-in-numbers."

Walker forced his eyes upward and stared at his superior. "Your tone says that such a war might be—"

"Unwelcome at this time. Unwelcome at this time." Meriwether shifted around in his chair, and scratched at its leather arms with the manicured tips of his gnarled fingers. "Walker, I don't have to tell you that this weapon, if it is what our agent infers—and there is no reason to believe otherwise—that this weapon makes it impossible for us to go to war with the Confederation—unless, as Chief of Weapons Development, you can tell me that we have something in our arsenal to combat it."

Walker rubbed at the tic. "Nothing," he said quietly.

Meriwether leaned forward, his hands crooked backward against the chair arms like catapult springs. "That answer is unacceptable. There are other questions you must answer, Walker, questions in some ways even more important than that basic one. Why haven't we developed this weapon ourselves? Why haven't we been aware of its potential existence? Where are the defensive devices which would naturally develop from such cognizance? These things are all your department, Walker." His voice pitched upward an hysterical fraction. "It just doesn't make sense, you know. We've a hundred times the personnel, ten times the facilities, unlimited funds—but they've beaten us to it." He stood up and pushed his chair back, eyes squint-

ing out of a reddening face that seemed on the point of bursting. "Why, Walker?"

Once again Walker thought about how he had hated the army when he was a bright young physics student. That was a long time ago—So much had happened. The doors had closed around him, one at a time, doors closing on the scientific mind. And so now, instead of a research scientist in white smock with textbook, he was a military administrator in smart greys with glittering stars of military rank.

"I'll say this, Walker," Meriwether shouted, his voice breaking again. "We'd better catch up quick. Mighty quick. Let's put it this way. It might mean your rank and your job, Walker. But you won't give a damn. Because we'll have lost the war. We'll have lost the colonies. And you know what that would mean, Walker?" He bent forward across the desk, his face exploding into Walker's eyes. "Only a fool believes that United Terra can survive in an economy without triplanetary hegemony."

"Walker, you've all the authority within my power to grant. You'll have no trouble getting money. But—get the answer. *Quick.*"

Walker blinked after him as he strode to the door. "I'll try to hold off a federal investigation as long as I can," Meriwether added, turning from the half-opened door. "But I can't guarantee a thing."

Walker sat alone in a cubicle of light in the darkened city and gulped down his twentieth cup of coffee. It had grown cold in the

cup and with a grimace he pushed it aside.

There was no doubt about it. He thumbed through the sheaf of scribbled notes he had transcribed from stacks of documents and racks of spools from Security files. Clearly, he had the answer to Meriwether's questions. But, having it, he did not quite know what to do with it.

There was, however, no doubt at all: United Terra had been on the track of the neural weapon—ten years earlier. Could have had it—and had lost the chance.

He rubbed his thumbs hard against his tired eyes and tried to remember back that ten years: at that time he had been Chief of Weapons Development for perhaps three years. His own name, though, had appeared in none of the files he had examined, so apparently he had not been directly involved in the security hearings. But he *should* remember.

Dr. Otto Millet. *Otto Millet*. He let the name roll around his brain, until shortly an image began to form—an image of a smiling man, greying at the temples, wearing a flamboyant sports shirt and affecting a very close haircut. A man perhaps forty. In the image, he was a laughing man.

He remembered now. Dr. Otto Millet: into government service on the inertia of a fantastic reputation as a research physicist specializing in magnetic field studies. A man he had instantly disliked.

He bent forward and reread what he had scrawled in his last notes, a verbatim extract from the report of the security committee.

"It is clear that Dr. Millet's conversations and letters with Professor Greymann, together with his unrepentant attitude, render him a security risk. His various security clearances are therefore revoked, and he is hereafter prohibited access to all classified files and to any government research and development laboratory."

Since virtually all laboratories were government supported, that was to all intents and purposes the end of Millet's career as an experimental physicist.

Where had Millet gone? What had he done since? Walker scraped a cigarette out of the half-empty pack in his pocket. More important: what was he doing now?

He inhaled deeply and sent clouds of smoke skewing across the room. Had the man really been a traitor? Walker tried to place himself in the time of Millet's hearing. He'd been not too many years out of school then, with the bitterness of his frustrated ambition to be a research physicist still rankling him; perhaps this had colored his view of Millet. He stared at his desk, almost shocked that this thought should have occurred to him. It shook him, for it told him something about himself which he did not particularly care to know.

Nowhere had he been able to find any evidence as to what had happened to Millet since. Banished, the government seemed to forget him. But one thing was clear to Walker, and he pondered it deeply as he sucked on the last quarter-inch of his cigarette and poured himself another cup of cold black coffee.

One big thing: Millet had been directing development along lines that would have led to the neural weapon; he had even signed a report, early in his project effort, which had referred to the possibility of "a neural device."

Had he gone over to the Confederation? It would account for their possession of the weapon now. But surely—*surely*, this fact would have been observed and reported by Terran intelligence agents.

Walker, infinitely tired, forgot his coffee and began to tidy up the desk, filing everything he wanted to keep in an electronically locked cabinet, shoving everything else into the destruction of the vibrator. He pondered for a moment the powdered secrets that were heaped like black dust in the bottom of the canister: a symbol of safety to a terrified world.

Step one: find Millet. *Find Millet.*

IT TOOK THE Secret Service exactly twenty-nine hours to locate Dr. Otto Millet. Thirty minutes later, Walker was climbing out of a government helicopter and staring at Millet's small house through squinted eyes which he shielded with both hands against the blazing desert sun. The house was fronted by a neat lawn and a white fence entwined with red roses; there appeared to be a rather large garden in the rear. The style of the house bothered him a little: it had passed out of popularity thirty years before. Its lack of a conventional roofport had forced

them to land the 'copter on the desert itself.

He straightened and pushed through the creaking gate. Flagstone steps curved toward the porch, and he minced along them, uncertain, now that he had arrived, of what he would say to Millet. The damned house, he thought—so different from what he had expected; it had thrown his whole thinking out of order.

He hated himself for feeling uneasy.

There was neither vodor nor contact system of any kind at the door, and he brushed his hand against his forehead in a gesture of frustration. He stared at his palm—it had come away wet with sweat, and he wondered if it were all because of the desert sun.

Tentatively, he banged on the door with his fist. There was no answer.

Damn Millet, he thought, wiping his forehead again. Why couldn't the man have a videophone like any normal person so you could find out if he were home without taking a trip halfway across the country?

He turned, stamping angrily as he did so, and was startled to see a man, wearing work clothes and holding a pair of heavy soiled gloves in his left hand, standing on the ground by the end of the porch. He was nearly bald, intensely bronzed, and he was smiling.

"Wondered when you'd see me." He nodded toward the gate. "I was standing right there when you came up. You just breezed right past." His smile broadened. "You were so

interested in being surprised that you couldn't see what you came for."

"It must have been that damned glare," muttered Walker, shaking his head. Then, impolitely, "Are you Millet?"

"Otto Millet," the other replied, inclining his head slightly. "You're from the government. I can tell because of the uniform, you see." Walker flushed. "The government hasn't thought about me in a number of years," the scientist added. He came up onto the porch and peered at the symbol on the left lapel of Walker's jacket. "Ah! Alma mater. Weapons Development." He squinted at Walker. "David Walker, I presume?" He chuckled loudly but Walker failed to see the humor. "I remember you, you see; what a shame you can't return the compliment."

"It's hot out here," complained Walker, in growing discomfort.

Millet opened the door. "Won't you come in? It's better inside."

There it was again, thought Walker; the insolence, the imperturbable smile. He grunted and went in; it was, mercifully, considerably cooler.

He looked around. It was a very cluttered living room, not messy but tossed about with the artifacts that the man obviously liked to have around him. There was an ancient painting by Bonestell hanging on one wall, a startlingly accurate twentieth-century concept of the appearance of Mars; several long pipe racks, filled to overflowing, in various spots around the room; a typewriter on a table in a corner,

and piles of paper; books lining the walls, and stacked on the floor in heaps and on the table beside the typewriter; a map of the earth on the wall above the typewriter, a three-dimensional Waterson projection. The furniture was clean but—not old; *lived with*.

Walker went over to the wall map and peered closely.

"One of Waterson's first," remarked Millet, closing the door. "Sit down, Walker, and tell me all about Weapons Development. How is the mass murder department doing these days?"

Walker felt his ears redden and he was arrested in the very act of sitting down. "Really," he said, "it's not something we *like* to think about, you know."

"Suppose not." Millet fiddled with several pipes in a rack beside his chair, selected one, and began filling it with rough-cut tobacco from a battered canister. "To business, then. Why the visit?"

Walker cleared his throat and tried to remember the little prefatory weasel words he had painfully assembled during the flight from Omaha. "First of all, Dr. Millet, I find myself a little embarrassed. After all, your parting from government service was not of the happiest nature for you—"

"Don't be foolish. Happiest day of my life, Walker."

Walker had a sudden sense of being impaled, and the rest of the little speech was dissipated in the wave of shock which swept over him. He forced his mouth shut, and gasped, "You're not serious!"

Millet shook out his second

match and puffed until the pipe bowl glowed warmly, edge to edge. "Of course I'm serious." He jabbed his pipe at Walker. "You like your job?"

"It's a job that has to be done."

Millet smiled and shrugged. "You haven't really answered my question."

Walker, sensing that he had already lost control of the conversation, waved his hands in dismissal. "Well, that is not really important. The fact remains, you did leave Weapons Development at the . . . ah . . . request of the government."

"Talk on, talk on—you'll get to the point eventually. When you're through, I'd like to show you around the place. I'm very proud of my gardens. You're sort of responsible for them, you know."

Walker set his jaw and bored ahead. "However, at the time you left government service, you were pursuing certain lines of research—"

Millet leaned back and began laughing, his eyes squinted shut. "Walker, don't tell me they want me *back!*"

It seemed his chance to dominate the discussion again. "I don't think you'd be allowed back."

"Good," said Millet, looking up, his laughter fading into a smile. "I was a bit concerned for a moment."

There was silence in the room. Walker began to wish that he were somewhere else: Millet simply baffled him. He obviously did not care about his disgrace. Walker felt a resurgence of the old resentment.

Millet's face suddenly became

very kindly. "Perhaps, as a fellow scientist"—Walker almost winced, and knew, furiously, that his response had shown—"you would be interested in knowing what I've been doing since my unhappy marriage with bureaucracy ended."

It was a welcome gambit, and Walker accepted it eagerly. "I certainly would. One of the reasons I came here, as a matter of fact."

Millet waved his pipe. "Good. Afterwards, you can stop beating around the bush, eh?"

"Yes, of course," mumbled Walker.

"You know," said Millet as he got up and went to a bookcase, "a man's got to earn a living. Do much reading?"

"Not these days. Used to." He scratched a cigarette on the sole of his shoe and inhaled hugely. "Not enough time these days for reading."

Millet reached into the bookcase and came out with a stack of magazines. "Well, that's how I make my living." He handed the stack to Walker. "Writing. Use a pen name of course. He chuckled. "Write everything—always happiest doing science fiction, though."

Walker flipped through the magazines; he looked up. "Obviously, you're doing rather well at it."

"Have been for the last seven or eight years. Lot of fun."

"And this has been your life since you left us?" Walker set the stack of magazines aside. "Seems a waste of genius, somehow."

"As a matter of fact, this is not my life's work. As I said, a man's

got to earn a living. This is just a lucrative hobby that pays the way. You see, I've been involved in an expensive research program."

"Ah." Walker sat forward and smashed out his cigarette. "This may be important."

"Oh, it is, it is. But not, I am afraid, in the way you mean."

"You can never tell. What have you been doing?"

"Completing a unified theory of life. Why a crystal grows but isn't alive, why an organism that dies isn't like a crystal. What is the process we call life? What is its relationship to the space-time continuum—"

He said it so casually that Walker was caught off his guard completely. "Are you serious, Millet?" he said.

"Certainly. I expect to publish in about two years."

"Is this an independent effort?"

"Not entirely. Others have contributed. Some pioneers long dead, some among the living." His eyes twinkled. "You see, important things beside the development of weapons of destruction do continue in the scientific world. Did you think that was the end of everything for me, ten years ago?" He shook his head in mock gravity. "It was just the beginning. I *wanted* out, you see."

"You wanted out?" Walker leaned forward, unwilling to believe what he had heard. "Are you trying to tell me that you *arranged* your discharge?"

Millet shrugged. "Why, of course. Nobody ever has bothered to ask me about that up to now, but I

certainly did arrange it. It wasn't hard, you know. All I had to do was set up some sort of relationship with a so-called security risk, and I was on my way out."

"Why . . . that's damned near treason."

"Don't be silly. I had other important things to do. In order to do them—to continue work on the unified life theory—it was necessary for me to contact scientists with whom professional relationships were made illegal by security regulations. The choice was simple; besides, I didn't enjoy the idea of spending my life developing ways of destroying the very thing I wanted most to understand."

"This is fantastic, Millet, utterly fantastic."

"But true nonetheless. Walker, you look like you could use a drink."

"By all means." He stared emptily into the air, thinking about the good old days.

"Walker, a toast," said Millet, holding a tall glass out to him. "To scientific freedom."

Walker blinked. "By all means," he repeated hoarsely, and there was a blurriness to his vision. "To scientific freedom."

They drank, and Walker said: "I feel a bit freer to say what I have come for."

"Shoot," nodded Millet, sipping his drink.

"For security reasons, I'll talk in generalities. But the basic fact is, United Terra is faced with a serious situation. It is most desirable that the research you were conducting when you left us, be continued."

"There are a lot of other capable physicists, both eager to be a part of such activity and blessed with security clearances."

"You know very well, Millet, that this was an unique, almost independent line of development that comes to a stop in your brain. Besides," and suddenly he felt silly, "the lines of communication for research which might enable us to pick up where you left off, in time—too much time—are somewhat entangled in security." He glared. "Don't laugh, Millet; it's a fact of life which must be faced."

Millet finished his drink and set the glass on an end table. "What you're doing is asking me to come back if you can arrange it."

Walker spread his hands. "Dr. Millet, you have put it in a nutshell."

Millet shook his head, and for the first time since their conversation had started he frowned. "Walker, you know how I feel about developing weapons. I'm just plain opposed to it."

"The soldier is opposed to losing his life, but many have to do just that in the interests of civilization."

"That serious, eh?"

Walker crumpled under the weight of his fear. "That serious," he said wearily.

Millet thoughtfully relit his pipe. "Of course, I'm not at all sure that United Terra is very right in this thing."

"In times like these, that kind of thought is out of bounds," snapped Walker. "Whether you like it or not, you are a part of this culture. You might disapprove of many

things in it, but you don't want to see it fall."

Millet puffed gently. "No, I suppose not." Again the frown flickered across his face. "I've been very happy. I don't want my work interrupted. It's too important, Walker."

"Undoubtedly this would more than interrupt your work. It would replace it."

Millet's eyes drifted affectionately about the room. "Most unpleasant." A smile curled his lips. "Frankly, though, I don't think you can clear me again."

"My problem."

"Indeed." A weary resignation seemed to settle over Millet, and Walker suddenly felt very miserable. "I suppose I'll have to accept," Millet said, pulling his pipe out of his mouth and staring unhappily at its trail of smoke.

Walker put his hands flat on his desk and sighed deeply. Some of the pressure, at least, was off; he had managed to cancel part of the Confederation's advantage. Terran industrial strength and technological supremacy, coupled with Millet's genius, might yet equate, or at least circumvent, the frightful weapon the Confederation held.

However, he still had to get Millet back into the government. Though, on the basis of the information he had gained regarding the scientist's motivations, and considering the critical nature of the situation, it shouldn't be too difficult.

He clicked on his video and dialed a secret line into Security

Data. Gyrating colors danced across the screen before it went black. He scowled, depressed the cancel button, and dialed again; this time, the black was finally replaced by a recorded image, which said, sweetly out of pouting red lips,

"This line is not cleared for the Security Information you seek. The problem you are handling should be routed through an individual permitted access to this information." The image faded into blackness, the sound track into static.

Walker stared, stupefied. No line, no contact, no source of information had been denied to him in over twelve years.

His door swung open; he came to his feet abruptly, furious that someone should enter unannounced.

He felt sickness strike him like a fist in the stomach: Meriwether, flanked by two security guards, pushed through the door. His voice slashed across the office like a broadsword.

"Walker, I'm shocked. Shocked. And at a time like this. . ."

Walker pounded his desk. "What the hell is going on? I can't get Security Data, you come marching in here with security men . . . what gives?"

Meriwether gestured to the guards, and they came forward and each took one of Walker's arms. "You're out of a job, Walker," snarled General Marcus Meriwether.

"In the name of God, *why?*"

"You know very well. Take him to security detention, Sergeant."

And suddenly he knew. Meriwether stared indignantly when he started laughing. It was a hell of a thing to laugh at, but it was also the most hilarious tragedy he ever hoped to encounter.

Millet. *Security risk*. Untouchable.

Millet would finish his great unified theory, and go down in history as neither Walker nor Meriwether nor the genius who invented the Confederation's neural weapon would. Millet was as safe as he could possibly want to be.

And so was the Interplanetary Confederation. **END**

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The dilemma of "The Man in the White Suit" was but a minor irritation compared to Charles and his "all-weather" suit!

THE STANDARDIZED MAN

BY STEPHEN BARTHOLOMEW

THE TURBOCAR swiped an embankment at ninety miles an hour; the result was, of course, inevitable. It was a magnificent crash, and the driver was thrown clear at the end of it for a distance of 50 feet.

Charles looked at the body and got his bright idea.

The trouble had started a couple of weeks before, when Edwin, Charles' laboratory co-ordinator, had called him into his office just before Charles was due to leave for home. It was a distinct breach of etiquette to cause a worker to arrive home at any time besides his

accustomed hour, so Charles knew whatever Edwin wanted must be important. He sat down opposite the Co-ordinator and assumed a politely questioning look.

"Charles, you know I wouldn't call you here at this hour if it wasn't important," Edwin said, pursing his lips.

"Of course not, sir," Charles replied, waiting.

"The fact of the matter is, we are in dire straits," Edwin stared at the other ominously. "As you well know, the Textile Industry, like every other business firm in the world, has functioned entirely without economic troubles of any

sort for the past fifty years."

"Well, of course, sir . . ."

"And you are also well aware of what would be the results of any financial deviation in any of these firms, particularly in a major industry such as our own."

"Certainly, sir. Ours is a delicately balanced economic system. Any slight change in the economic status of one firm would . . ."

"Exactly!" Edwin leaned across the desk and glared at him. "I have just come from a Board of Directors meeting. And it was made known to us that during the past three weeks our margin of profit has fallen off by three tenths of a per cent!"

Charles' face turned pasty white. He swallowed and took a deep breath.

"Will that information be made public, sir?"

"Naturally not! But we aren't sure just how long we can keep it a secret! The fact of the matter is, the IBM says that our profit margin will continue to spiral downward at a gradually increasing rate unless some drastic change occurs in our production set-up!"

Edwin leaned back and clasped his hands, composing himself. "The precise reasons for the existence of the situation are quite obscure. However, the IBM has informed us that the problem can be remedied if we make a particular change in our production system, and it has informed us as to the nature of that change."

He stood up and placed a finger on a capacitance switch. A panel in the Wall slid back to reveal six

sales charts. There were two each marked *Winter*, *Summer* and *Spring-Fall*. Three were designated *marlons*, and three *marilyns*. Each of them showed a red line rising steeply on the left, levelling out to a perfectly straight bar all the way across, then dipping sharply again.

"Look here," Edwin said. "These are the sales charts for our six suits. As you know, we make three different types for marlons, and three for marilyns. Hot-weather, cold-weather, and medium-weather. Each suit is designed to last a carefully calculated length of time, and each consumer need only buy three suits a year. They are exactly alike except for slight size differences, and because of elastic fabrics these differences are held to a minimum. With this system the Textile Industry attained the ultimate in Standardization, the ultimate in efficiency."

Charles rubbed his chin thoughtfully. "Has the IBM suggested any alternative to our system, any possible change?"

Edwin sat down again, folded his arms on the desk, and scowled. "That's where you come in! The IBM informs us that there is only one possible way to stabilize our economy, to raise our profit margin to its former level—and that is by further standardization!"

Charles raised his eyebrows. "You mean a sexless wardrobe, sir? That's been tried . . ."

"No, that's *not* what I mean!" Edwin snapped. "What I mean is an *all-weather suit*!"

Charles swallowed audibly at that and said nothing.

"You can see the advantages, of course," Edwin explained. "We'd need only to manufacture two types of suit, marlon and marilyn. Since we'd never have to adjust our factories, we could drop a lot of unnecessary technicians, and with the further standardization, manufacturing would be faster and cheaper—a lot cheaper. The consumer would only purchase one suit a year, but we could make up for that by raising the prices somewhat."

Charles finally got a word in. "But, *sir!* An all-weather suit? How can we design a suit that will be equally comfortable in the middle of a Florida heat-wave or a New England snowstorm?"

"How? *How?*" Edwin's voice raised and his finger pointed. "You're the research chemist, Charles! You're supposed to tell me how!"

"Sir? I . . ."

"Listen!" Edwin poked the other in the chest. "I assume you know what will happen to Society if the Textile Industry becomes economically unstable?"

"Well, yes sir, but . . ."

"Then I assume you realize that the Board of Directors will stop at nothing to preserve the status quo! And since you happen to be our chief industrial chemist, the entire problem lands in your lap! Now, we want to know how to make an all-weather suit, and we want to know *fast*. Therefore, Charles, you're going to tell us how to do it! Understand?"

Charles nodded unhappily. "Yes sir, I understand."

CHARLES went to work the next day after informing his wife that she could expect him to begin keeping rather irregular hours at the laboratory. The idea of any kind of irregularity was enough to worry any wife, and Ingrid was the naturally suspicious type. She was always nagging and had, upon occasion, even gone so far as to insinuate that Charles had individualist tendencies.

So he knew that she would, embarrassingly, call Edwin to check up on him, but he didn't really care.

The real problem was the all-weather suit.

Charles put his small corps of assistants on the project, investigating several lines of thought at once. Every day, someone would drop around for a while to check on his progress, and he had no delusions about what would happen if he failed. The entire economic stability of his society depended on his coming up with an all-weather suit, and he began to have trouble sleeping nights.

Eventually, he found what looked like a workable solution.

He called Edwin to tell him about it, and Edwin came down to the lab to see for himself.

"Is *this* it?" he asked, picking up what looked like a burlap handkerchief.

Charles cleared his throat. "Well, that's the first sample, sir. Of course, it's possible to obtain a finer weave once we find out a few things about it, and when it's bleached . . ."

Edwin nodded impatiently. "Yes,

yes. Well, what's so special about it?"

"Well, it's made of a radically new type of fiber, sir . . ."

"How's it new?"

"I can show you more technical data on it, sir, but basically the difference between this and conventional types of fiber is that this is thermostatic."

"How do you mean, thermostatic?"

"Well, sir, basically, the diameter of the fiber is inversely proportional with the temperature. When the temperature rises, the fiber contracts, and when the temperature drops, it expands. So in cold weather, you have a fine, tight weave with good insulation, and in warm weather you have a loose weave with ventilation . . ."

Edwin nodded and dropped the fabric on a lab bench. "Sounds good."

"Well sir, we have to make a few more tests on it, and it'll have to be field tested before we can decide if it's safe to use in garments . . ."

Edwin tapped him on the shoulder. "Test it, Charlie."

"Sir?"

Edwin frowned. "We don't have as much time as you think. We need that suit of yours *fast*. We can't afford to waste any more time puttering around the laboratory. You have the fellows downstairs make up some of this stuff into a Standard suit, and I want you to put it on yourself. What I mean is, *today!*"

Charles' jaw dropped. "Today! But . . ."

"No buts! Wear it a couple of days, and if you say it checks out, we go into production immediately."

So Charles went home that night in a new suit and a worried frown.

THINGS WERE smooth for about two days. Charles continued to wear the suit and Edwin insisted on his making the preliminary preparations for the mass-production of thermostatic fabric. Charles was kept busy working out specifications.

Then there were two factors that brought about a drastic change in his life.

One was that he was worried. Charles wasn't exactly sure what he was worried about, but at the back of his mind there was something in the complicated molecular structure of the new fiber that bothered him.

The other factor was that Ingrid was still nagging him. Perhaps if Charles had been able to tell her what he was working on she would have understood why he was worried. But he didn't tell her, and she didn't understand.

One day after Charles had come home and eaten, she started an argument with him about something or other, and in the most heated part of the battle she had hurled at him the supreme insult.

"Charles," she said, "I think you *look* different!"

Coupled with the strain that Charles was under, that had been enough to make him stare at In-

grid for a moment, wheel and stalk out of the apartment.

After all, to say that one's face was even subtly different—even if it really was—was an unforgivable insult.

Charles went out for a long, solitary evening walk and ended up at one of those places that features six varieties of beer, a continuous floor show and a loud band. Charles was not quite aware of entering, but once inside, watching the bump-and-grinders who wore nothing but their name tags, he found it difficult to leave.

The room was just ventilated enough to prevent suffocation, but it was purposely kept hot and stuffy in the hope that this would induce thirst on the part of the customers.

When he thought about it later he decided it was undoubtedly the humidity that had caused the catastrophe, but when it happened he hadn't the foggiest notion what was going on.

All he knew was that he had signalled a waitress for a third beer, she had come threading her way between the postage-stamp tables, he had looked up to give his order, she had looked down impersonally, and then there was a scream.

It took a moment to realize that the waitress was screaming at him, and by that time there were shouts from the surrounding tables as well, and men and women alike were stumbling all over themselves to get away from Charles.

In no time at all, there was a first-rate riot in progress, then the

lights went out, and Charles had brains enough to fight his way to an exit and slip into the dark alley outside.

And then Charles inspected himself and realized the horrible truth.

The key concept to Charles' society was expressed in the word *Standardization*. Standardization had had its beginning in the early Industrial Revolution, when men first discovered that it was far more efficient to make a thousand pieces of furniture if you made them all exactly alike.

And since efficiency means economic predictability, and since predictability means stability, Standardization quickly became the watchword in the world's new industrial economy.

So, in time, virtually every product manufactured was standardized. From the smallest bolts and screws in a wristwatch, through automobile license plates, to clothing styles; everything manufactured was strictly standard equipment.

Of course, the only unpredictable factor in this structure was the human element, therefore the logical answer was a standardized consumer.

The trend had started, undoubtedly, in Hollywood. The Art of Cinematography had not existed long before becoming the Motion Picture Industry. And, naturally, an industry must be efficient.

The Hollywood tycoons had decided that the best way to reduce the margin of risk on any new movie star was to create an arbitrary criterion, and to require the

potential star to measure up to that standard.

Charles was absently aware that the female standard of beauty had been exemplified by a woman named Marilyn, and that the masculine standard had been represented in someone named Marlon.

So, gradually, all of the new female stars that were selected by Hollywood resembled Marilyn as much as possible, and male leads were selected to look like Marlon. If anyone had a nose that wasn't quite right, or large ears, a little plastic surgery quickly remedied the problem, and if a female starlet happened to have brown hair, peroxide was always handy.

And in time, it became increasingly difficult to tell one movie star from another.

Then the standard, idealized faces and their standards, idealized personal mannerisms became socially fashionable, and with modern cosmetics and readily available plastic surgery, the fashionable men and women in society began to imitate the ideal.

It became not only fashionable to wear the Standard face, but indecent *not* to do so. Social conformity was encouraged as much as possible, and the end result was the closest thing to a Standardized, predictable consumer as there ever could be.

This might have produced difficult problems, because with all women and all men wearing identical clothing and identical faces, it might have become impossible to tell one person from another, which was not desirable even in a Stand-

ardized world.

Along with the Standard face had come name tags by which a person might individualize himself to the minimum necessary degree.

These name tags were worn about the neck on a colorful plastic band, with the tag itself, a white plastic card, on the right side of the neck. On the tag, in gold lettering, was the person's name, address, and Social Security number.

And—they were worn *all* the time.

The name tag was the only means by which a person might be identified. Without it, anyone might impersonate anyone else he pleased. So, of course, it became obscene to appear in public without one.

And Charles, standing in the alley, looked down at himself and realized the horrible truth.

He found himself running through back streets, sidling around corners, and darting into doorways.

After an hour or two, he realized that he was no longer within the City Limits.

Charles took a good look around him and discovered he was standing on a minor highway just outside of town. There were no cars or people in sight, and he dropped off the road into some bushes to get his wind and think.

He had *known* there was something wrong with the molecular structure of the suit he was wearing, but Edwin wouldn't listen.

It had undoubtedly been the humidity. The chemical process

had no doubt been going on since he'd first donned the suit, but it had been the heat in that beer joint that had accelerated the action enough to finish the job. Human perspiration acting on the new fiber in the collar of his suit produced some obscure chemical reaction which had a corrosive effect on the plastic band and plastic card of his name tag.

He had to get home, somehow, and tell Edwin to hold up production on the new thermostatic suit. Perhaps the flaw in it could be eliminated in a short time. If it couldn't . . .

He considered. The world Dollar Standard had been absolutely stable for more years than he knew about. What would happen if it suddenly became unstable? A fluctuation of even a fraction of a cent would cause widespread panic; it would jolt the Public's faith in its infallible economic system. And the panic would cause further deviation in the Dollar's purchasing power, and—more panic.

He wiped his brow. If the situation in the Textile Industry was as critical as Edwin said it was, then Edwin and his superiors weren't going to be at all happy when Charles told them about the suit—and Charles was going to be the fall guy.

But of course he had to get back and tell them. Because Edwin was all set to start production on the all-weather suit immediately, and if he actually went through with that and got a few million of them onto consumer's backs, the result would be not panic, but disaster.

And Charles' present problem was how to get home without being arrested.

IT WAS then that one individual got an extremely tough break, and Charles got his first lucky one.

A turbocar came barreling down the highway and, without warning struck an embankment. The driver was thrown fifty feet from the wreckage.

Under different circumstances, he would never have considered doing what he did then. The penalty for wearing another person's name tag was severe. But Charles was under an extreme emotional strain; and without even thinking, he bent over the limp grey form of the other marlon and removed his tag.

He straightened, then, clutching the plastic band and looking around at the smoking wreck. Already, he could hear a siren somewhere in the night.

He slipped the name tag over his head and struck out through the bushes toward the city.

His plan was simple; he had another name tag in his apartment for emergency purposes, and if Ingrid was in bed he'd have no trouble getting it, destroying the one he was wearing now, and putting on his other suit.

Briefly, he wondered what the police would think of finding a body near a smashed car with no name tag. They'd probably decide it was the same person that had caused the disturbance at the night club earlier in the evening.

Charles realized that the lettering on the car had indicated it was a public, coin-operated vehicle, so the authorities would have no means of identifying the body.

After awhile it occurred to him that if he should go into hiding someplace, the body might easily be identified as his own, and he wouldn't have to worry about what Edwin and the other bosses would do to him. It probably wouldn't be noticed that the torn and blood-spattered clothes on the corpse were not thermostatic. But he shook his head resolutely. Even if he were crazy enough to try it, the body would be reported missing by somebody or other, so that would never do.

Eventually, Charles reached a main thoroughfare in the city and hailed a cab. He climbed in the back, told the driver briefly to take him home, and then slumped down in the seat and brooded.

He stared out the window, watching the buildings go by, and the emotional reaction of the evening began to set in. Morbidly, Charles wondered what they'd do to him if he kept his mouth shut and let the Industry put the suit into production, and waited for the millions of ID tags to begin to drop off.

The prospect was so frightening that his apprehension over what would happen if it was discovered he was wearing somebody else's tag almost disappeared.

Finally, the cab rolled to a stop. Charles got out and dropped some coins into the hand protruding from the front seat, and, head low, he turned and entered the

apartment house.

He trudged dismally up the stairs, thinking about his wife. He wondered what would happen if she were awake and waiting for him. If she saw that he had on somebody else's name tag.

The door was unlocked.

And the light was on.

He wondered if he could duck into the bedroom without being seen, and then someone leaped at him and he knew it was too late.

"Oh, James dear!" she cried, throwing her arms around Charles' neck. "When you walked out of here, I thought you'd never come back to me!"

Charles looked at the marilyn's name tag with slow horror and realized that in his preoccupation, out of sheer force of habit, he had simply said to the cab driver, "Take me home," and the driver had looked at the address on his tag and complied. The apartment building so much resembled Charles' own that he hadn't known the difference, and he hadn't bothered to look at the number on the door.

When Charles walked in, this Marilyn, Stasia her name was, had looked at his name tag and thought he was her James. She didn't have the slightest idea of who he really was.

Then Charles closed his eyes, swallowed, and knew something else.

It really didn't make the least bit of difference *who* he was. And of course, the solution to all his troubles was obvious.

With a sigh, Charles leaned over Stasia and kissed her.

END

*Life is pretty strange when a
god who is good and benevo-
lent must prove that he has*

Feet of Clay

BY PHILLIP HOSKINS

THE PROBLEM," said Cassidy, "would seem to be simple." He thumped his outsized knuckles against the desk. "Almost too simple."

"Why?" The other was a wearer of the black and silver uniform of Extrasol Traders; a short man, made shorter by the beer-barrel shape of his body and the extreme width of his shoulders. His head was capped with close-cropped gray curls.



Illustrated by Paul Orban

"Why?" he repeated. "I've been studying it ever since it first cropped up, and I must admit that it's been beyond me."

"I must confess, Dillon," said Cassidy, "I wonder how you ever rose to the managerial ranks of Extrasol. I find it hard to imagine a personnel man stupid enough to put you in charge of even a back-water planet like this Kash. Surely somebody in the home office must know how dumb you are?"

"My dumbness is not the subject of this conversation," said Dillon, grimly. "I didn't like the idea of calling in a trouble-shooter. I liked it even less when I found out it was to be you."

Cassidy grinned. "You mean my wonderful personality hasn't made an impression on you? I'm cut to the quick."

"I put up with you for only one reason. You know aliens, far better than I could ever hope to. You're about the best in the field."

"Only about? Really, Dillon, if you knew of someone better than me, why didn't you get them?"

"All right!" He shouted the words. "You're the best! But you still haven't explained why the problem seems simple to you." He pulled out a cigarette, and bit down savagely on the end, only to spit out the loose tobacco amidst a sputter of curses.

"The misfortunes of being feeble-minded," sighed Cassidy. "But for your sake, I'll take you by the hand, and try to lead you down the road of intelligence. But first, you better go over the situation once more.

"We are on Kash," said Dillon, visibly controlling his patience. "It's the fourth world of a G-type sun of the periphery, unnamed in the catalogues. For that reason, we have assigned it the native name. Kash is their term for both the star and the planet, and roughly translates as 'home of the Gods'.

"The planet was first contacted during the great galactic expansion of 2317, when the sole native language was taped. The planet is approximately two-thirds the size of Earth, but its density is somewhat less, so the gravity is about half that of Earth. It is moonless, and so far from galactic center that scarcely a hundred stars are visible in the sky. Thus a trained observer can usually pick out the other five planets of the system with no trouble at all." He paused, and took a drink of water.

"Six months ago it was contacted by Unit 317 of Extrasol Traders . . ."

"Namely you," said Cassidy.

"Me. A month was spent mapping the planet and searching out native villages. I then returned to base and picked up supplies necessary for setting up an outpost. Two months ago I returned.

"And all Hell broke loose . . ."

Night fell quickly, and with little relief on Kash, for the stars were few and far between, and shed little light. Dillon stepped out of the office that was doing double-duty as living quarters until separate quarters could be set up, and started for the nearby well. He

cursed as he realized his flashlight still lay on the desk, but the light pouring from the open door was enough to see by, and he decided against returning.

As he walked, he breathed deeply of the tangy night air, and sighed with satisfaction. This world was infinitely more pleasurable than the last he had posted, and he intended to enjoy his stay.

He let his thoughts ramble as he walked and so almost ran down the waiting alien before he saw him. The native's huge eyes gleamed softly in the spill of light from the office, and the gray down that covered his body and head, except for the face, seemed soft and alive.

"Tarsa, Bila," said the Earthman, using the native greeting.

"Tarsa, starman. May the Gods shine their eternal light on you."

"And on you," Dillon said, observing the ritual. "But what brings you here at night?"

"The night is beautiful, is it not, starman? It shines with a glory all its own. At times it would seem to outdo its brother, the day."

"Indeed," he agreed. "Your world is one of the loveliest I have yet seen, and my travels have led me over as many stars as there are waves on the sea. But surely you did not come to talk merely of the night and its beauty."

"Alas, no," sighed the native. "My task is a most unhappy one, for sorrow hangs heavy over the village. The women and children are weeping, and the men know not what to do in the face of calamity. It seems as though the

Gods themselves have turned against my people." He wiped his eyes with the back of his hand.

"What would you with me, Bila?" asked the Earthman. "Surely I cannot be of any assistance?"

"As a man from the sky, surely you have met the Gods in open battle before!" cried the alien. "And just as surely you must have defeated them, else you would not be here this night."

"I am flattered, Bila. It is true that the Gods of the universe and I are not total strangers. Exactly what is wrong?"

"It is Toll, the son of Kylano. He has fallen from a cliff, and the bones of his arm are broken and need curing."

"But isn't that a job for the priest?"

"Aye. But our priest has been on a pilgrimage these past ten days, and is to be gone another thirty or more. There is no one left with the necessary knowledge. You will come?"

"I'll come, Bila. But first I must get a bag from the office. With it I may be able to help the boy."

"Ah, you too have an herb basket like the priest's? Truly you are a friend of the Gods."

"Not quite like the priest's," said Dillon, smiling. "But it serves much the same purpose." He hurried up the path and into the shack, emerging a moment later with the first-aid bag that was standard equipment for all men isolated from the services of a doctor.

"That's where you made your first mistake," said Cassidy. "Reg-

ulation 1287-63C, paragraph 119 states 'no man shall give medical aid to alien races unless a team of certified specialists has checked out all such medicines with respect to such race and certified them safe. Penalty for breaking rule: Revocation of any licenses; restriction to home world for three years; and/or five thousand dollars fine.' You really did things up right. You should have left that bag in the safe where it belonged."

"Well, I didn't," said Dillon. "And it's too late now to talk of what I should have done. At any rate . . ."

"Where is the boy, Bila?" asked Dillon as he came up to the alien again.

"At my village, starman. Come." He slipped down the path and was soon swallowed by the darkness. The Earthman hurried after, afraid of being lost in the almost impenetrable night.

He had forgotten the flashlight again, and he cursed as he stumbled over an unseen obstruction.

"Bila!" he called.

"Yes, starman?" The alien appeared as if from nowhere.

"I'm afraid that I'm not as gifted as you when it comes to traveling at night without light. You had better let me hold onto your shoulder."

"Of course, starman. I am most sorry for causing you trouble."

"It's my own fault. I should have remembered the light. Let's get going again." He placed his hand on the alien's shoulder, and they started off again.

Despite his guide, he twice stumbled over obstructions, and would have fallen but for his grip on the other's shoulder. Bila waited while he steadied himself, and then started off again, keeping up a fast pace.

The village lay three miles from the post, and during the day, Dillon considered it nothing more than a brisk walk. But the blindness that came with the dark wiped out all realization of time and space, and he soon began to think that they must have passed it by, when the alien spoke.

"We are here, starman."

They rounded a bend, and a cluster of huts came into view, lit by the dim light of a few scattered lamps. The alien threaded his way through the narrow lanes between the huts, and stopped outside one of the largest in the group. He held the hangings aside, and Dillon stooped to enter.

The hut was already crowded with natives. The smoke from half a dozen of the sputtering lamps hung like a shroud over the interior, and the Earthman's eyes were soon smarting. He wondered how the natives, with their much larger eyes, could stand it.

The injured boy lay on a pallet in the center of the hut. An animal skin had been thrown over him, with the broken arm exposed. Dillon knelt by him, and felt it over carefully.

"A clean break, thank God," he said, more to himself than his audience.

The boy whimpered, and he reached for the bag, and rum-

maged around. Finally he pulled out an already prepared hypo, loaded with a sedative. He swabbed the boy's good arm, and pressed the needle home.

The natives moved forward when they saw the needle, and some of them began to mutter. But the boy quickly dropped off into an untroubled sleep, and they settled down.

The Earthman took hold of the broken arm, and marvelled at the frailty of it. The bones had to hold a lighter weight than those of Earthmen, and thus were correspondingly weaker. He felt that he could snap one of them with his hands.

He straightened the arm out, as gently as he could, and then pulled. The broken ends slid together with a satisfying pop, and he quickly bound them with a splint from his bag. He wrapped the bandage tight, and tied it. Then he arose, picking up his bag.

"He should be alright now," he said. "I'll stop by in the morning, when he's awake, and give him a going-over."

"His arm," said Bila. "It is . . . fixed?"

"Yes. He's young, and he should heal fast. Three weeks from now he'll be out with the other children, playing games and just as active as ever."

"We thank you, starman," said Bila. "We have not the words to say just how happy we are that you have helped us."

"It's nothing," said Dillon, embarrassed by the show of gratitude. "All Earthmen would do the same."

"Ah, your magic must be even greater than that of the priests. It is most unfortunate that the village priest was away. But the Gods have smiled on us, by sending you instead."

"He'll be back soon, I hope?" said Dillon. "The priest, I mean."

"Alas, not for at least thirty days, and perhaps more. He knew not where his pilgrimage would lead him."

"But if you have more troubles like this?"

"Our misfortunes," said Bila, his face downcast. "If the Gods see fit to abandon us to the miseries of the world, what can mere men say? If some must die, than they shall surely die."

"No!" He regretted the word the moment it was out, but it was too late to recall it. The milk was spilt, and crying would be foolish at this point. "No. If you have troubles, come to me. I will do what I can, although I am not sure that it will be much."

"Ten million thanks, starman!" His eyes glistened with joy. "Our people shall be eternally grateful."

"You'd better save your thanks, until you're sure that I can help you. But right now, I'd appreciate a guide back to the post, and a lamp, so I don't fall anymore."

"Of course. It shall be done immediately." He motioned for one of the men in the hut, who came with a lamp. Bila held the hangings aside, and the two passed outside into the blackness again.

The trip back to the trader's shack passed without mishap and Dillon went to sleep quite pleased.

TEN DAYS PASSED. They were days of intensified effort for Dillon, as he went about the task of setting up the rest of the post. The warehouse came first, and the living quarters. The office that had been serving double-duty reverted to its primary function.

Occasionally a few natives would drop around to gaze at the work-in-progress, but they would soon grow bored, and drift away to other amusements. He had twice been back to the village to look at the boy, but so far nothing else had come up to require his meagre medical knowledge. He was beginning to think that he might last out until the priest returned. He had been rereading the regulations covering contact, and the penalties were much too harsh for his liking. He began to worry about hiding traces of his one experiment.

The noonday sun was on the wane when he finished wrestling the last of a group of bins into the warehouse. He pulled out his kerchief, and wiped the accumulated sweat from his eyes. The summer season was full on the land, and the heat was as bad as any he had seen on Earth.

He brought his lunch out to the office porch, and sank down in the rocker that he had brought from his last post. There was a slight breeze blowing diagonally across the clearing in front of the building, and he shifted around to receive its full benefit.

The first bite was scarcely in his mouth when Bila came into sight around the bend of the path. He cursed silently, and put down his

sandwich. He stood up to welcome the alien.

"Tarsa, Bila," he said. "What brings you here today?"

"Sadness again wearies our people, and we know not what to do. The Gods are indeed angered with us, and our priest is still away."

"Just what is it this time?"

"It is Kylano. He is at death's door, and the messengers of the Gods can be heard waiting to take him beyond." Two tears broke loose and rolled down his leathery gray cheeks.

"The boy's father?" said Dillon. The alien nodded.

"But what is wrong with him?"

"Alas, we do not know. He was swimming in the lake, when a demon possessed one of the fishes, and bit him on the leg. When he came out of the water, a fever lay heavily over him, and he has become unconscious."

"And you want me to save him."

It was a statement, rather than a question, and the native recognized it as such.

"If it be within your power, starman. If you do not come, he must surely die."

"All right, Bila. I'll do whatever I can." He ducked inside the office, and came out again with his bag. They set off down the path.

"Your second major mistake," said Cassidy. "You were lucky with the boy, but you should have come to your senses enough to leave the bag behind on the second call. You were just stepping out into deeper water."

"But the man was sick, and I

didn't know what else to do but use the medicines. I couldn't let him die!"

"Why not?"

"Why not? I've got feelings and a conscience. That's why! I couldn't just stand by and do nothing. Especially when the sedative worked on the boy!"

"It would have been far better to let one man die than to have the aliens come to regard you as higher than their own priests."

"It's easy enough for you to say what I should have done here, but I think your own actions would have been far different if you had been in my place."

"I doubt it. I'd never have been made trouble-shooter, if I didn't have the brains to avoid a mess like that. I still think you're just plain stupid."

"My thoughts of you are better left unsaid. At any rate, when we got to the village . . ."

It was the same hut, and a crowd that may or may not have been present the earlier night. The numbers were the same. The only change was the lack of the overhanging pall of smoke from the lamps.

The man occupied the same pallet as the boy, and the crowd made way for Dillon as he moved to his side. It was readily apparent that he was very ill, and Dillon uttered a silent prayer that he had something in the kit to help him.

The leg wound was nasty and crusted over. He swabbed it clean, blanching when he saw its depth. Steadying himself, he bound it

tightly, and sat back on his heels to ponder his next move.

The bandage would prevent any further infection, but the Earthman was afraid the damage had already been done. The fever lay heavily on the native, and he tossed and turned in his coma. The drugs in the bag were all intended for use by Terrans only, and an attempt to aid the slight alien might only result in death. Whereas if he were left alone to ride out the fever, he just might come through all right.

Kylano let out a muted sob, and struck out wildly, nearly hitting Dillon in the face. He cursed, and turned to his bag, selecting the most catholic antibiotic it contained. He looked up at the watching crowd, but they just stared back impassively. He cursed again, and swabbed a spot on the native's arm, and thrust home the needle.

He threw the empty hypo back in the bag, and shut it savagely. Then he stood up, and looked around for Bila.

"A drink of water, please," he said, catching the other's eye.

"Certainly, starman," he replied, handing over a gourd.

Dillon drank deeply, then wiped his mouth. He handed back the gourd and picked up his bag. As he pushed his way through the crowd, Bila followed.

"Kylano will be well now?" said the alien.

"I don't know. I just don't know. I hope so."

"Is there anything more you can do?"

"Perhaps. If I knew just what he

was sick with, and I had the right drugs to treat it, I could do a lot. As it is . . ." He left the sentence hanging.

"If the Gods will it, he will live."

"Pray that they will it. In the meantime, you might bathe his forehead every now and then. It'll help to make him more comfortable."

"In any event, we thank you, starman. With our priest gone . . ."

"Why did your priest leave on such a long journey, Bila? I should think he would be more concerned with the care of his flock."

"The ways of the priesthood are beyond the comprehension of ordinary men. When the Gods speak to them, they obey, no matter how onerous the orders may be. If men must suffer during their absence, it is unfortunate. But it must be."

"Then I'd think that your priests would see to it that someone in the village would know what to do in case of emergency."

"Oh, no!" He seemed horrified at the thought. "Knowledge is for the Gods to give to the chosen ones. Common men would not be worthy of it, for it is certain that they do not have the intelligence to deal with it properly. Only the priests are wise enough to be so honored. Priests and men from the stars," he added, as an afterthought.

"Well, in any event, I hope you don't need me any more . . ."

"But they did need you," said Cassidy.

"Unfortunately, yes. Four more times in the twenty days before the

return of the priest."

"What were the troubles?"

"Once, it was to aid in childbirth—my first adventure as a midwife," he said, remembering the event and his shame at his ignorance in the matter. He had had to take directions from the woman. "Once, a hunter had fallen in an animal trap, and broken both his legs," he continued. "And twice, it was for sickness."

"The same one as this Kylano?"

"I don't know. I couldn't hope to diagnose it, so I just shot them full of antibiotics, and prayed for a miracle."

"You should have prayed for brains instead. But all of your sick ones recovered?"

"Yes. I couldn't seem to do anything wrong, and it wasn't long before the natives were beginning to look on me as the personal representative of their Gods. It was embarrassing, the way they fawned over me."

"Tell me," said Cassidy. "You said you read the regs over. Why in the name of all that's holy didn't you have the sense to follow them?"

"I couldn't stand by and watch them die! I had to help them, Cassidy. Damn it, I *had* to!"

"Yeah, sure. But go on."

"Well, to shorten matters, the local priest finally got back from his pilgrimage, and took up his old duties. All went well for about a week, and then another alien became ill. The priest heard about it, naturally, and went to his aid. But it seems my percentage of recoveries was better than his at

its very best. They wouldn't let him even near the sick one. Instead, they sent for me."

"You went?"

"Of course. I didn't know the priest was back, and what else could I do?"

"I shudder to think. What happened?"

"The native got well, and the tribe practically pitched the priest out on his ear. He went running to his superiors, and they called a council of war. They banned the natives from the post, and threatened to cut off any who were seen with me from all priestly privileges."

"The tribe made an almighty stink. They called their own council, and there was practically civil war. That's when I called you. Or, rather, the nearest trouble-shooter."

"Ah, me. Why is it that I, Cassius Cassidy, get saddled with all of the real stinkers in the galaxy? I don't mind shooting other people's troubles for them, but I do resent the fact that the messiest ones get dumped in my lap. Sometimes I feel like resigning."

"Cassidy, one of these days . . ."

"Oh, simmer down. I said there was a simple solution to your problem, and I knew what I was talking about. The natives have been so taken in by your ridiculously lucky flukes that they think you're the next thing to a God. Right?"

"Right." Each looked as though the other were something unmentionable, left over from the last cleaning of the cesspool.

"So we just . . ." He leaned forward and outlined his plan.

FIVE DAYS PASSED, peacefully. The natives gave the post a wide margin; not even Bila showed his face. Dillon began to think that maybe there was a chance things would go back to normal by themselves; and that Cassidy's plan would not be necessary.

The first four days were merely a continuation of the heat. The two Earthmen sat around the office, speaking only when it was absolutely unavoidable, and then only in snarls. Dillon sent out a rush request for air conditioning equipment, omitted, by some mistake, from the supplies.

The fifth day was as sunny as ever, but a stiff west wind sprang up, and the temperature was bearable. Cassidy smiled for the first time in days, and Dillon tried to be pleasant to him.

The sixth day broke with an unceasing torrent of rain, and the men returned to their surly grumbling.

"I hope the post isn't washed away," said Cassidy. "This storm begins to assume the aspects of the Biblical flood."

"We're safe enough," said Dillon. "Only . . ."

"Only what?"

"Nothing. Just a hunch."

"Good or bad?"

"Bad. All bad. I've got a feeling we're due for a visit."

As if on cue, a knock came on the office door. Dillon opened it,

PHILLIP HOSKINS

and stood aside for the thoroughly bedraggled alien waiting outside. Bila was a sorry caricature of himself, with his down plastered to his body. Water dripped from him in a steady stream.

"Tarsa, starman," he said.

"Tarsa, Bila," replied Dillon. "I've been expecting you."

"Oh? Do you then have the powers of foreseeing the future, too?"

"No," he said, laughing. "It's just that it's been several days since you were last here. You were overdue for a visit."

Cassidy cleared his throat, and Dillon turned to him.

"This is Cassidy, Bila," he said. "He is my brother from the stars, and has come to visit me for a short while."

"Tarsa, Cassidy," the native said, gravely.

"Tarsa, Bila. I have been hoping to meet a member of your people."

"Oh? Has the fame of Kash spread far through the universe then?"

"Indeed, all of the civilized worlds talk of Kash and its gentle folk. It is a common ambition to be able to come here and see you in person. It is hoped that soon such travel will be most frequent, to the reward of both of our peoples."

"Indeed," said Bila. "I thank you in the name of my people. Will you yourself be here long?"

"Unfortunately, no. But when I go I will take fond memories as souvenirs."

"What is so important that it brought you out in this storm,

Bila?" asked Dillon, breaking into the conversation. "Your troubles must be pressing."

"Indeed, they are. The Gods frown heavily on our village this day, and I have come once more to seek your intercession."

"What is the matter?" asked Cassidy.

"Alas, the trouble is in my own household. My wife lies at the door to death, and I fear she is fast slipping beyond."

"Haven't you had the priest in?" asked Dillon.

"Against your great and wondrous magic, Dillon, what is the priest? He is like a lost little boy, unable to tell North from East, and helpless in the face of death. Only you have the power to bring her back to the world of the living, as you did with Kylano and the others."

"I thank you for your trust," said Dillon. "I only hope it is not misplaced."

"You will come?"

"Of course. As soon as I dress for the storm, and get my bag." He turned to do so, then was struck by an afterthought. "By the way, do you mind if Cassidy comes with us? He would appreciate the chance to see your village."

"It will be an honor."

"Good. Get into your togs, Cass."

They were soon ready. Dillon grabbed up his bag, and he followed the native out into the storm. The rain blew straight toward them, and they bent forward, into the wind. The trip to the village was a fight all the way.

The village itself had become

isolated; an island in the midst of a shallow lake. They waded across, to the hut that was Bila's. He held the hangings aside, and the Earthmen stepped into the stink of the alien crowd.

The omnipresent lamps were lit, and the smoke hung heavy. Both of the Earthmen were soon wishing they had protection for their smarting eyes.

The natives stopped their keening, and made room for the two men. They both moved forward, and bent over the woman. Dillon could see that she was as sick as the others, but whether or not it was the same disease, he could not say. For the eighth such time, he wished he had taken medical training as a youth, in deference to his family's wishes.

"It's hot in here," said Cassidy. Sweat beaded out on his forehead, and he wiped it away with a shaking hand.

"Small wonder," said Dillon, "with all these people here. They must up the temperature by twenty degrees." He opened his bag, and dug out a swab. After cleaning a spot on her arm, he dug out a needle, and filled it from an ampoule.

"Dillon!"

He whirled around. "Cass! What's the matter?"

"I . . . don't know. Woozy. I feel woozy." He staggered, and fell forward, unconscious.

"Cass!" He bent over the man, and turned him over. Cassidy's face was white, and the sweat rolled off in rivulets. Dillon felt for a pulse, and then pulled out a stetho-

scope. Baring the other's chest, he listened for a beat.

"What is it, Dillon?" asked Bila. "What is wrong?"

"I don't know. He's sick." He looked worried.

"Sick?" The natives stared at each other, unbelieving.

"Yes, sick! Earthmen get sick too, you know!" He bared Cassidy's arm, and swabbed it clean. Then he pressed home the needle he had prepared for the woman.

"He will get well?" asked Bila.

"I don't know." Dillon felt for a pulse again. Disbelief washed over his face, and he sank back on his heels.

"What is it?"

"He's dead."

"Dead?" Amazement took hold of them.

"Dead." The Earthman stood up, shaking his head. "But your wife, Bila. I must attend to her."

"No." The native stepped between the man and woman, and held out his arms.

"No? Why not?"

"The Gods have frowned on you, starman. It is obvious that they are dissatisfied with you, for they took your brother."

"But just because Cassidy died doesn't mean your wife will." He stared at the lesser being, dumfounded. "But she might, if not treated."

"We shall get the priest. We cannot run the risk of offending the Gods by permitting you to touch her."

The Earthman stared from face to face, but the same message was written on all. Hopelessness took

the place of question, and he turned, and stumbled from the hut, and into the storm.

"Take the man to the post," said Bila. Several of the men hurried to do his bidding. They carried Cassidy out into the night, without looking back.

"Simple," said Cassidy. "Just like I said." He was hunched over his coffee, his ham-like hands soaking up the warmth from the cup.

"Simple," said Dillon. "I don't get it. Just why did they stop me from treating the woman?"

"We come from the stars, which the natives associate with the home of the Gods. We don't look quite like their legends say Gods should, but they figured we must be close to them, so they credited us with omnipotent powers. The priests claimed the cures they affected were done with the grace of the almighty, and the natives figured your cures came from the same source."

"I can't figure why they wouldn't even let me touch her," said Dillon. "It doesn't make sense."

"Actually, if you had given her

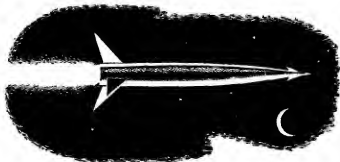
the shot without me on the scene, and she had died, they probably would have accepted it as the will of the Gods. The priests fail once in awhile, and they just claim that the Gods have wanted that particular person to die. But when you were unable to save me, another man from the stars, and therefore presumably a close acquaintance of the Almighty, they could come to only one conclusion: The Gods withdrew their blessings from you. After that they wouldn't have let you touch a sick pig—if they have pigs here." He drained his cup.

A roar sounded down from the sky, building up into a wail that scraped the spines of the hearers. It rose to a crescendo, and then came a jarring shock that shuddered the whole building.

"My chauffeur," said Cassidy. "Hot-rodding, as usual." He rose, and picked up his baggage.

"You know, Dillon," he said, "You're a jerk. I'll tell my grandchildren about you. You're a perfect example of what not to do." He shook his head. "A horrible example."

END



OUT FROM THE SUN

(Continued from page 81)

derstand the strange doom that had befallen it? There are a thousand such questions that may never be answered. It is hard to see how a creature born in the fires of the Sun itself could know anything of the external universe, or could even sense the existence of something as unutterably cold as rigid non-gaseous matter. The living island that was falling upon us from space could never have conceived, however intelligent it might be, of the world it was so swiftly approaching.

Now it filled our sky—and perhaps, in those last few seconds, it knew that something strange was ahead of it. It may have sensed the far-flung magnetic field of Mercury, or felt the tug of our little world's gravitational pull. For it had begun to change; the luminous lines that must have been what passed for its nervous system were clumping together in new patterns, and I would have given much to know their meaning. It may be that I was looking into the brain of a mindless beast in its last convulsion of fear—or of a god-like being making its peace with the universe.

Then the radar screen was empty, wiped clean during a single scan of the beam. The creature had fallen below our horizon, and was hidden from us now by the curve of the planet. Far out in the burning Dayside of Mercury, in the inferno where only a dozen men have ever ventured and fewer still come back alive, it smashed silent-

ly and invisibly against the seas of molten metal, the hills of slowly moving lava. The mere impact could have meant nothing to such an entity; what it could not endure was its first contact with the inconceivable cold of solid matter.

Yes, *cold*. It had descended upon the hottest spot in the Solar System, where the temperature never falls below seven hundred degrees Fahrenheit and sometimes approaches a thousand. And that was far, far colder to it than the Antarctic winter would be to a naked man.

We did not see it die, out there in the freezing fire; it was beyond the reach of our instruments now, and none of them recorded its end. Yet every one of us knew when that moment came, and that is why we are not interested when those who have seen only the films and tapes tell us that we were watching some purely natural phenomenon.

How can one explain what we felt, in that last moment when half our little world was enmeshed in the dissolving tendrils of that huge but immaterial brain? I can only say that it was a soundless cry of anguish, a death-pang that seeped into our minds without passing through the gateways of the senses. Not one of us doubted then, or has ever doubted since, that he had witnessed the passing of a giant.

We may have been both the first and the last of all men to see so mighty a fall. Whatever *they* may be, in their unimaginable world within the Sun, our paths and

theirs may never cross again. It is hard to see how we can ever make contact with them, even if their intelligence matches ours.

And does it? It may be well for us if we never know the answer. Perhaps they have been living there inside the Sun since the Universe was born, and have climbed to peaks of wisdom which we shall never scale. The future may be theirs, not ours; already they may be talking across the light-years to their cousins in other stars.

One day they may discover us, by whatever strange senses they possess, as we circle round their

mighty, ancient home, proud of our knowledge and thinking ourselves lords of creation. They may not like what they find, for to them we should be no more than maggots, crawling upon worlds too cold to cleanse themselves from the corruption of organic life.

And then, if they have the power, they will do what they consider necessary. The Sun will put forth its strength and lick the faces of its children; and thereafter the planets will go their way once more, as they were in the beginning, clean, and bright . . . and sterile.

END

THE BARBARIANS

(Continued from page 76)

Myka, sat on his porch. One of the tribesmen was wrapping Geoffrey's and Dugald's forearms together. Geoffrey watched him with complete detachment. He stole a glance over toward Weatherby's porch, and it seemed to him that Myka was tense and anxious. He couldn't be sure . . .

The fingers of his right hand gripped the haft of The Barbarian's knife. He held it with his thumb along the blade, knowing that if he drew his arm up, to stab downward, or back, to slash, Dugald would have a perfect opening. It was his thought, remembering that razor-keen blade, that he ought to be able to do plenty of damage with a simple under-hand twist of his arm. He did not look down to see how Dugald was

holding the knife he'd been given. That would have been unfair.

The crowd of watching tribesmen was completely silent. This was a serious business with them, Geoffrey reflected.

The tribesman tying their wrists had finished the job. He stepped back. "Anytime after I say 'Go,' you boys set to it. Anything goes and dead man loses. If you don't fight, we kill you both."

For the first time since their capture, Geoffrey looked squarely into Dugald's slit eyes. "I'm sorry we have to do this to each other in this way, Dugald," he said.

"Go!" the tribesman shouted, and jumped back.

Dugald spat at Geoffrey's face. Geoffrey twitched his head involuntarily, realized what he done, and threw himself off his feet, pulling Dugald with him and just escaping the downward arc of

Dugald's plunging knife. The momentum of Dugald's swing, combined with Geoffrey's weight, pulled him completely over Geoffrey's shoulder. The two of them jerked abruptly flat on the ground, their shoulders wrenched, sprawled out facing each other and tied together like two cats on a string.

The crowd shouted.

Geoffrey had landed full on his ribs, and for a moment he saw nothing but a red mist. Then his eyes cleared and he was staring into Dugald's face. Dugald snarled at him, and pawed out with his knife, at the advantage now because he could stab downward. Geoffrey rolled, and Dugald perforce rolled with him. The stab missed again, and Geoffrey, on his back, jabbed blindly over his head and reached nothing. Then they were on their stomachs again.

Dugald was panting, his face running wet. The long black hair was full of dust, and his face was smeared. If ever Geoffrey had seen a man in an animal state, that was what Dugald resembled. Geoffrey thought wildly; Is this what a *noble* is?

"I'll kill you!" Dugald bayed at him, and Geoffrey's hackles rose. This is not a man, he thought. This is nothing that deserves to live.

Dugald's arm snapped back, knife poised, and drove downward again. Geoffrey suddenly coiled his back muscles and heaved on his left arm, yanking himself up against Dugald's chest. He snapped his hips sideward, and Dugald's knife

missed him completely for the third and fatal time. The Barbarian's knife slipped upward into Dugald's rib cage, and suddenly Geoffrey was drenched with blood. Dugald's teeth bit into his neck, but the other man's jaws were already slackening. Geoffrey let himself slump, and hoped they would cut this carrion away from him as soon as possible. He heard the crowd yelping, and felt The Barbarian plucking the knife out of his hand. His arm was freed, and he rolled away.

"By God, I *knew* you had the stuff," The Barbarian was booming. "I knew they had to start breeding men out on the coast sooner or later. Here—give me your other wrist." The blade burned his skin twice each way—once for victory and once for special aptitude—and then Myka pressed a cloth to the wound.

She was shaking her head. "I've never seen it done better. You're a natural born fighter, Lad. I've got one of my sisters all picked out for you."

Geoffrey smiled up at The Barbarian, a little ruefully. "It seems you and I'll be going back to the coast together, next year."

"Had it in mind all along, Lad," The Barbarian said. "If I can't lick 'em, I'll be damned if I won't make 'em join me."

"It's an effective system," Geoffrey said.

"That it is, Lad. That it is. And now, if you'll climb up to your feet, let's go get you some breakfast."

END

FEELING OF POWER

(Continued from page 11)

with a man or two within, controlling flight by graphitics, would be lighter, more mobile, more intelligent. It would give us a lead that might well mean the margin of victory. Besides which, gentlemen, the exigencies of war compel us to remember one thing. A man is much more dispensable than a computer. Manned missiles could be launched in numbers and under circumstances that no good general would care to undertake as far as computer-directed missiles are concerned—"

He said much more but Technician Aub did not wait.

Technician Aub, in the privacy of his quarters, labored long over the note he was leaving behind. It read finally as follows:

"When I began the study of what is now called graphitics, it was no more than a hobby. I saw no more in it than an interesting amusement, an exercise of mind.

"When Project Number began, I thought that others were wiser than I; that graphitics might be put to practical use as a benefit to man-

kind; to aid in the production of really practical mass-transference devices perhaps. But now I see it to be used only for death.

"I cannot face the responsibility involved in having invented graphitics."

He then deliberately turned the focus of a protein-depolarizer on himself and fell instantly and painlessly dead.

They stood over the grave of the little Technician while tribute was paid to the greatness of his discovery.

Programmer Shuman bowed his head along with the rest of them, but remained unmoved. The technician had done his share and was no longer needed, after all. He might have started graphitics, but now that it had started, it would carry on by itself overwhelmingly, triumphantly, until manned missiles were possible, along with who knew what else.

Nine times seven, thought Shuman with deep satisfaction, is sixty-three and I don't need a computer to tell me so. The computer is in my own head.

And it was amazing the feeling of power that gave him. **END**

WHAT IS YOUR SCIENCE I.Q.?

ANSWERS: 1—Solid with 12 plane faces. 2—Sagittarius. 3—It never varies. 4—Tin. 5—Temperature at which vapor pressure equals one atmosphere. 6—Scientific study of Mars. 7—Gypsum, fluorite, topaz. 8—Lever, wheel, pulley, inclined plane, wedge, screw. 9—Joining similar molecules to make a larger one. 10—Nabellium. 11—Bath lack true roots, stems, leaves. 12—Nitric and hydrochloric acids. 13—Wind velocity of 70 m.p.h. 14—Temperature when substances change magnetic behavior. 15—Fission, budding, spores.



A new family of materials, made from glass, which are harder than steel, lighter than aluminum and 15 times as strong as plate glass has been developed by the researchers at Corning Glass. Named Pyroceram, the new material is a major contribution and an advance in glass technology whose production is a revolutionary manufacturing process in which non-crystalline glass is turned into a hard non-porous crystalline material. It can be tailor-made with thermal expansions ranging from slightly negative to high enough to match those of heavy metals. It can have electrical insulating properties superior to those of the best commercial dielectric ceramics. It can be opaque or transparent, the first polycrystalline material ever to exhibit this optical property. Certain types of the material keep their strength at temperatures as high as 1300 degrees Fahrenheit. It can be made into large or complex shapes by any of the known glass-forming techniques.

Transportation engineers are learning that all-aluminum subway cars may cost less to run and maintain than the steel cars now in use and the rush-hour contingent of the fu-

ture will no doubt be jamming into the new type of subway. Cars with aluminum bodies and underframes are strong, light, and corrosion resistant due to a protective oxide on the surface of the metal. The new type of car would be about nine percent lighter than the 47-ton loaded steel ones and would cost about \$500 less per year to run and maintain. Longer bearing, wheel and track life and either more passengers carried at the same speeds, or a faster train schedule possible due to the light weight would account for much lower maintenance and operation costs.

The United States Army will soon replace bottles for blood transfusions with plastic bags that pump blood when placed under the shoulder of a wounded man. The plastic bags offer the added advantage of being unbreakable, disposable and, when empty, taking up only one-sixth of the space now needed for storing bottles. Designed to be placed under the shoulder of the wounded man, the bags are able to force the blood at an even rate into the arm through use of the body weight.

A greatly improved micro-wave relay system capable of handling more than 10,000 telephone conversations, or 12 television programs plus 2,500 telephone conversations will be in use in about two years. The new system, called TH for short will take advantage of advances such as silicon rectifiers, transistors, and ferrite switches that can switch rapidly and automatically from regular and

emergency equipment in less than a thousandth of a second. It will beam signals much as a searchlight beams visible light, with short-wave, high-frequency radio waves relaying the information from one line-of-sight link to another.

A study on solid propellants and the effects of solid fuel motor requirements for the guided missile program has revealed that such fuels will propel most military rockets of the future. Interest in solid fuels is based on the fact that such compounds are safer, easier to store and require less handling. The solids also cost less and there will be a dollar saving in storage, transportation and training the crews to handle them. Some solid fuels already in use include some plastics, natural and synthetic rubber compounds, nitroglycerine and nitrocellulose compounds as well as solidified boron complexes.

A tiny tube the size of a cigarette filter tip which shows how long a radio, TV picture tube or other electronic device has been operating has been developed by the Raytheon Company. Simple to install, cheaper than mechanical timers, self sealed, and impervious to surrounding conditions the device can be operated in any position and uses about the same amount of energy as that generated by a flea.

The sun beating down on an infantryman will be the source of energy to power the world's smallest transmitter-receiver built into a soldier's helmet. Silicon wafer solar

cells used in combination with a nickel-cadmium storage cell make up a package which weighs less than a pound, and can be used both in sunlight and when clouds and nightfall cut off solar energy.

Automation is overtaking even the highly trained medical laboratory technician. Called the Autoanalyser, the new machine can run through a blood analysis in almost less time than it takes to prick a finger. The machine, which was developed by the Technicon Company, can be loaded with a batch of 60 blood samples and test them for sugar, calcium and urea in about one hour.

The magic carpet of fiction may actually be a reality someday soon. Astrophysicists foresee the carpet made of tiny closed cells filled with hydrogen or helium, the cell walls so light and strong that the carpet would be lighter than air. The production of strong, thin, single crystals has suggested the idea and lifting power could be managed by different degrees of elastic compression of the carpet's spongy metallic substance.

A miniature dry-cell battery which is rechargeable and almost indestructible has been developed by government researchers. Adaptable to the transistorized circuits of hearing aids, walkie-talkies and portable radios, the tiny 1.5 ounce battery has advantages of long life, constant voltage and durability which make it a really rugged mighty midget.

Thue AND Cry

Didn't Mr. Smith defeat his own argument when he criticized Gunn's *Green Thumb*? He said he wanted us to stop stuffing our heads with the irrelevancies of specialization and use our learning as a guide to learning. What does he want us to be, a nation of philosophers? After all, most people who are specialists are not stuffing their heads with facts that are irrelevant to their own particular field. They are using their own special learning to further more learning on the same subject and thereby learning more than was known about it before.

I agree with Gunn that the specialists are forgetting the larger field, that they should broaden their horizons to take in more than their own little field; that large strides in one dimension are not enough to compensate for no forward movement in any other.

However, only through specialization and attention to the details of a field of knowledge can that field make any strides toward learning more about itself.

—E. K. DeYoung
Seattle, Wash.

Becoming a statistic is ordinarily laughingly to be shied away from, but in this case you're welcome to include me. I'm an avid reader of science fiction, but never thought much about why until you asked. I'm a technical manual writer, writing about such commonplace powerplants as those destined to lift some lucky pilot into outer space one fine day—liquid rocket engines. Thirty years ago I read my first s.f. stories with rocket ships as the theme. Today those dream ships are only a step away. Which brings up the point about my present outlook on the subject.

Our favorite reading matter is one of the very few types of fiction left. Detective stories, love stories, and most modern fiction is anything but—it is hashed and rehashed actual experience dressed up to look like fiction. But too many of us are "sensitive" and demand the word *science* be tacked in front of our fiction. I think this affectation has hurt us more than anything else. Recent movies and TV programs have been ruined because of the label "science fiction" when a slightly different accent and the removal of this label would make delightful entertainment. Playhouse 90 has put on at least one very good program in this category and didn't once use a title,

lead, or spoken word to indicate that it was anything but good interesting fiction. It went over beautifully with the general public who would ordinarily shun science fiction.

As to IF, I like the illustrations from the cover to the little trademark of Science Briefs. I like the choice of stories, the lead captions and the variety. I like the number of new writers that you feature. The old ones are good; but how nice to read a fresh approach occasionally.

The paper is excellent and gives a sharp letter, the lines of type are even and very rarely contain a misplaced letter. In short, IF is a professional magazine.

—Waldo T. Boyd
Orangevale, Calif.

There are so many anomalies in science, evidence points out that science may not be science after all. At least a system can be constructed wherein all phenomena are dependent upon the subconscious agreements of individuals, rather than upon natural laws. In this view, we would see more magic than science. But if anything conceivable is possible, the social effect of science fiction is to literally cause the creation of new things. The new thing must first be imagined, then accepted by a number of persons, then it can be built. In science fiction we dare to imagine.

Explorations in parapsychology are easily accomplished in the medium of science fiction. If one man ever knew the future, then it follows that the future can be known.

If one accident prone can cause a series of accidents, then it follows that accidents are caused. If one astrologer can predict one true event, it follows that there is a relation between planetary cycles and human events. But if any of these things work because of belief in them, we can engender belief through familiarity and acceptance. A correlation of one is not useful, however, but you can determine if a correlation greater than one exists. What other agency would even look for such correlation? Very few indeed!

—Paul Mitman
Detroit, Mich.

Game Preserve was quite an enjoyable story, but Rog Phillips' genetics seem a little deficient. His assertion that $\frac{1}{4}$ of the population would be morons if they were not weeded out suggests that he is postulating a recessive anomaly. Fine, but then he comes up with "normal" being the recessive in the preserves. And if this is due to a recessive "suppressor" gene which seems the only plausible simple hypothesis, then the impurity of the preserve could not be so simply weeded out as indicated! A good story, and I liked it; but Rog should check a few references next time.

—Nick Sturm
Austin, Texas

I read science fiction because there are no limits to the plots. Mystery stories and westerns are always controlled and stereotyped. The hero undergoes several hard-

ships, falls in love with the closest beautiful girl, solves his problem of either murder or bank robbery or range rustling and the book is ended. Science fiction on the other hand cannot be stereotyped. There can be no limitations; you have no idea what the story will be like until you have begun to read it; and therefore it's an adventure in itself.

IF has the best reproduction, the fiction is always well written, the artists are the best in the field. The departments couldn't be better. The quiz is geared to an intelligent adult and not a teenage reader as most of them are. Science Briefs are done with a scientific atmosphere but can be understood by a fairly intelligent layman. The editorial

is the most interesting in the field since it covers a broad number of subjects, and the letter column is exceptional since all the letters say something.

IF boosts my contention that most readers are completely intelligent adults.

—Bill Meyers
Chattanooga, Tenn.

K.V. Fletcher in his diatribe against time machines has placed himself in what to my mind is a rather ridiculous position. He wants us to understand, that the only time machine that will ever exist will be man's own mind which will carry him backward into his own memories and no further. He describes the author's uses of enormous flows of energy etc. to put man into the future—all because he himself is so dogmatic that he will not accept such a possibility. I don't know how old he is, but I wonder if he wasn't one of those benighted souls who scorned the horseless carriage, and made Fulton suffer under jibes and jokes before he proved the worth of his steamboat. Can his mind encompass Man's reaching the stars? Or even closer to home, an artificial satellite?

Well then, why not a time machine?

—A. Pasquine
Metuchen, N. J.

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To This Earthman on the Planet "Solaria" An
Unclad Girl Was Far More Dangerous Than

THE NAKED SUN

by
Isaac Asimov

ON THE PLANET "SOL-
ARIA" Earthman Elijah
Baley should NOT have blushed
to the ears when beautiful Glad-
ia Delmarre casually stepped
out of her shower to talk with
him! For all Solarians CON-
SIDERED THAT ENTIRELY
PROPER . . . because their so-
cial contacts were carried on by
VIEWING through two-way
television.

And just as Elijah (an Earth-
man brought up in under-
ground cities) was terrified by
Solaria's naked sun, the Solar-
ians dreaded mingling with
other HUMANS. Physical con-
tact was out of the question.
Even DISCUSSING such things
was obscene!

That's why Elijah had good
reason to be shocked when
Gladia actually allowed him to
SEE HER IN PERSON—when

she brazenly reached out her
naked fingers to TOUCH HIM!

There was no doubt left in his
mind that there was something
unspeakably strange about this
exotic temptress. But it was be-
coming more and more difficult
for Elijah to admit—even to
himself—that she was his prime
suspect in a fantastically sordid
murder!

You'll thrill to THE NAKED
SUN by Isaac Asimov . . . just
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